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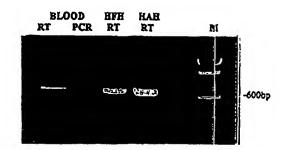
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#### (54) Title: METHOD FOR THE DETECTION OF GENE TRANSCRIPTS IN BLOOD AND USES THEREOF

#### (57) Abstract

The present invention is directed to detection and measurement of gene transcripts in blood. Specifically provided is a RT-PCR analysis performed on a drop of blood for detecting, diagnosing and monitoring diseases using tissue-specific primers. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-associated genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.





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# METHOD FOR THE DETECTION OF GENE TRANSCRIPTS IN BLOOD AND USES THEREOF

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#### **BACKGROUND OF THE INVENTION**

#### Cross-Reference to Related Application

This application claims the benefit of priority of provisional patent application U.S. Serial Number 60/115,125, filed January 6, 1999 and of a U.S. application entitled "Method for the Detection of Gene Transcripts in Blood and uses Thereof' filed on January 4, 2000 (application number not yet assigned).

#### Field of the Invention

The present invention relates generally to the molecular biology of human diseases. More specifically, the present invention relates to a process using the genetic information contained in human peripheral whole blood for the diagnosis, prognosis and monitoring of genetic and infectious disease in the human body.

#### Description of the Related Art

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The blood is a vital part of the human circulatory system for the human body. Numerous cell types make up the blood tissue including monocytes, leukocytes, lymphocytes and erythrocytes. Although many blood cell types have been described, there are likely many as yet undiscovered cell types in the human blood. Some of these undiscovered cells may exist transiently, such as those derived from tissues and organs that are constantly interacting with the circulating blood in health and disease. Thus, the blood can provide an immediate picture of what is happening in the human body at any given time.

The turnover of cells in the hematopoietic system is enormous. It was reported that over one trillion cells, including 200 billion erythrocytes and 70 billion neutrophilic leukocytes, turn over each day in the human body (Ogawa 1993). As a consequence of continuous interactions between the blood and the body, genetic changes that occur within the cells or tissues of the body will trigger specific changes in gene expression within blood. It is the goal of the present invention that these genetic alterations be harnessed for diagnostic and prognostic purposes, which may lead to the development of therapeutics for ameliorating disease.

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The complete profile of gene expression in the circulating blood remains totally unexplored. It is hypothesized that gene expression in the blood is reflective of body state and, as such, the resultant disruption of homeostasis under conditions of disease can be detected through analysis of transcripts differentially expressed in the blood alone. Thus, the identification of several key transcripts or genetic markers in blood will provide information about the genetic state of the cells, tissues, organs and systems of the human body in health and disease.

The prior art is deficient in non-invasive methods of screening for tissue-specific diseases. The present invention fulfills this long-standing need and desire in the art.

#### **SUMMARY OF THE INVENTION**

This present invention discloses a process of using the genetic information contained in human peripheral whole blood in the diagnosis, prognosis and monitoring of genetic and infectious disease in the human body. The process described herein requires a simple blood sample and is, therefore, non-invasive compared to conventional practices used to detect tissue specific disease, such as biopsies.

One object of the present invention is to provide a non-invasive method for the diagnosis, prognosis and monitoring of genetic and infectious disease in humans and animals.

In one embodiment of the present invention, there is provided a method for detecting expression of a gene in blood from a subject, comprising the steps of: a) quantifying RNA from a subject blood sample; and b) detecting expression of the gene in the quantified RNA, wherein the expression of the gene in quantified RNA indicates the expression of the gene in the subject blood.

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In another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; and e) detecting expression of the genes in the ESTs, wherein the expression of the genes in the ESTs indicates the expression of the genes in the subject blood. Preferably, the genes are tissue-specific genes.

In still another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting DNA fragments from the blood sample; c) amplifying the DNA fragments; and d) detecting expression of the genes in the amplified DNA product, wherein the expression of the genes in the subject blood.

In yet another embodiment of the present invention, there is provided a method for monitoring a course of a therapeutic treatment in an individual, comprising the steps of: a) obtaining a blood sample from the individual; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; e) detecting expression of genes in the ESTs, wherein the expression of the genes is associated with the effect of

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the therapeutic treatment; and f) repeating steps a)-e), wherein the course of the therapeutic treatment is monitored by detecting the change of expression of the genes in the ESTs. Such a method may also be used for monitoring the onset of overt symptoms of a disease, wherein the expression of the genes is associated with the onset of the symptoms.

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In still yet another embodiment of the present invention, there is provided a method for diagnosing a disease in a test subject, comprising the steps of:

a) generating a cDNA library for the disease from a whole blood sample from a normal subject; b) generating expressed sequence tag (EST) profile from the normal subject cDNA library; c) generating a cDNA library for the disease from a whole blood sample from a test subject; d) generating EST profile from the test subject cDNA library; and e) comparing the test subject EST profile to the normal subject EST profile, wherein if the test subject EST profile differs from the normal subject EST profile, the test subject might be diagnosed with the disease.

In still yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) gene-specific primers; wherein the primers are designed in such a way that their sequences contain the opposing ends of two adjacent exons for the specific gene with the intron sequence excluded; and b) a carrier, wherein the carrier immobilizes the primer(s). Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease.

In yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) probes derived from a whole blood sample for a specific disease; and b) a carrier, wherein the carrier immobilizes the probes. Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease.

Furthermore, the present invention provides a cDNA library specific for a disease, wherein the cDNA library is generated from whole blood samples.

Other and further aspects, features, and advantages of the present invention will be apparent from the following description of the presently preferred embodiments of the invention. These embodiments are given for the purpose of disclosure.

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## **BRIEF DESCRIPTION OF THE DRAWINGS**

So that the matter in which the above-recited features, advantages and objects of the invention, as well as others which will become clear, are attained and can be understood in detail, more particular descriptions of the invention briefly summarized above may be had by reference to certain embodiments thereof which are illustrated in the appended drawings. These drawings form a part of the specification. It is to be noted, however, that the appended drawings illustrate preferred embodiments of the invention and therefore are not to be considered limiting in their scope not be considered to limit the scope of the invention.

Figure 1 shows the following RNA samples prepared from human blood; Figure 1A: Lane 1, Molecular weight marker; Lane 2, RT-PCR on APP gene; Lane 3, PCR on APP gene; Lane 4, RT-PCR on APC gene; Lane 5, PCR on APC gene; Figure 1B: Lanes 1 and 2, RT-PCR and PCR of βMyHC, respectively; Lanes 3 and 4, RT-PCR of βMyHC from RNA prepared from human fetal and human adult heart, respectively; Lane 5, Molecular weight marker.

Figure 2 shows quantitative RT-PCR analysis performed on RNA samples extracted from a drop of blood. Forward primer (5'-GCCCTCTGGGGACCTGAC-3', SEQ ID No. 1) of exon 1 and reverse primer (5'-CCCACCTGCAGGTCCTCT-3", SEQ ID No. 2) of exons 1 and 2 of insulin gene. Blood samples of 4 normal subjects were assayed. Lanes 1, 3, 5 and 7 represent overnight "fasting" blood sample and lanes 2, 4, 6 and 8 represent "non-fasting" samples.

Figure 3 shows quantitative RT-PCR analysis performed on RNA samples extracted from a drop of blood. Lanes 1 and 2 represent normal healthy person and lane 3 represents late-onset diabetes (Type II) and lane 4 represents asymptomatic diabetes.

Figure 4 shows multiple RT-PCR assay in a drop of blood. Primers were derived from insulin gene (INS), zinc-finger protein gene (ZFP) and house-keeping gene (GADH). Lane 1 represents normal person. Lane 2 represents late-onset diabetes and lane 3 represents asymptomatic diabetes.

Figure 5 shows standardized levels of insulin gene (Figure 5A) and ZFP gene (Figure 5B) expressed in a drop of blood. The first three subjects were normal, second two subjects showed normal glucose tolerance, and the last subject had late onset diabetes type II. Figure 5C shows standardized levels of insulin gene expressed in each fractionated cell from whole blood.

Figure 6 shows the differential screening of human blood cell cDNA library with different cDNA probes of heart and brain tissue. Figure 6A shows blood cell cDNA probes vs. adult heart cDNA probes. Figure 6B shows blood cell cDNA probes vs. human brain cDNA probes.

Figure 7 graphically shows the 1,800 unique genes in human blood and in the human fetal heart grouped into seven cellular functions.

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#### DETAILED DESCRIPTION OF THE INVENTION

In accordance with the present invention, there may be employed conventional molecular biology, microbiology, and recombinant DNA techniques within the skill of the art. Such techniques are explained fully in the literature. See, e.g., Sambrook, Fritsch & Maniatis, "Molecular Cloning: A Laboratory Manual (1982); "DNA Cloning: A Practical Approach," Volumes I and II (D.N. Glover ed. 1985); "Oligonucleotide Synthesis" (M.J. Gait ed. 1984); "Nucleic Acid

Hybridization" [B.D. Hames & S.J. Higgins eds. (1985)]; "Transcription and Translation" [B.D. Hames & S.J. Higgins eds. (1984)]; "Animal Cell Culture" [R.I. Freshney, ed. (1986)]; "Immobilized Cells And Enzymes" [IRL Press, (1986)]; B. Perbal, "A Practical Guide To Molecular Cloning" (1984). Therefore, if appearing herein, the following terms shall have the definitions set out below.

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A "cDNA" is defined as copy-DNA or complementary-DNA, and is a product of a reverse transcription reaction from an mRNA transcript. "RT-PCR" refers to reverse transcription polymerase chain reaction and results in production of cDNAs that are complementary to the mRNA template(s).

The term "oligonucleotide" is defined as a molecule comprised of two or more deoxyribonucleotides, preferably more than three. Its exact size will depend upon many factors which, in turn, depend upon the ultimate function and use of the oligonucleotide. The term "primer" as used herein refers to an oligonucleotide, whether occurring naturally as in a purified restriction digest or produced synthetically, which is capable of acting as a point of initiation of synthesis when placed under conditions in which synthesis of a primer extension product, which is complementary to a nucleic acid strand, is induced, i.e., in the presence of nucleotides and an inducing agent such as a DNA polymerase and at a suitable temperature and pH. The primer may be either single-stranded or double-stranded and must be sufficiently long to prime the synthesis of the desired extension product in the presence of the inducing agent. The exact length of the primer will depend upon many factors, including temperature, source of primer and the method used. For example, for diagnostic applications, depending on the complexity of the target sequence, the oligonucleotide primer typically contains 15-25 or more nucleotides, although it may contain fewer nucleotides. The factors involved in determining the appropriate length of primer are readily known to one of ordinary skill in the art.

As used herein, random sequence primers refer to a composition of primers of random sequence, i.e. not directed towards a specific sequence. These

sequences possess sufficient complementary to hybridize with a polynucleotide and the primer sequence need not reflect the exact sequence of the template.

"Restriction fragment length polymorphism" refers to variations in DNA sequence detected by variations in the length of DNA fragments generated by restriction endonuclease digestion.

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A standard Northern blot assay can be used to ascertain the relative amounts of mRNA in a cell or tissue obtained from plant or other tissue, in accordance with conventional Northern hybridization techniques known to those persons of ordinary skill in the art. The Northern blot uses a hybridization probe, e.g. radiolabelled cDNA, either containing the full-length, single stranded DNA or a fragment of that DNA sequence at least 20 (preferably at least 30, more preferably at least 50, and most preferably at least 100 consecutive nucleotides in length). The DNA hybridization probe can be labelled by any of the many different methods known to those skilled in this art. The labels most commonly employed for these studies are radioactive elements, enzymes, chemicals which fluoresce when exposed to untraviolet light, and others. A number of fluorescent materials are known and can be utilized as labels. These include, for example, fluorescein, rhodamine, auramine, Texas Red, AMCA blue and Lucifer Yellow. A particular detecting material is antirabbit antibody prepared in goats and conjugated with fluorescein through an isothiocyanate. Proteins can also be labeled with a radioactive element or with an enzyme. The radioactive label can be detected by any of the currently available counting procedures. The preferred isotope may be selected from <sup>3</sup>H, <sup>14</sup>C, <sup>32</sup>P, <sup>35</sup>S, <sup>36</sup>Cl, <sup>51</sup>Cr, <sup>57</sup>Co, <sup>58</sup>Co, <sup>59</sup>Fe, <sup>90</sup>Y, <sup>125</sup>I, <sup>131</sup>I, and <sup>186</sup>Re. Enzyme labels are likewise useful, and can be detected by any of the presently utilized colorimetric, spectrophotometric. fluorospectrophotometric, amperometric or gasometric techniques. The enzyme is conjugated to the selected particle by reaction with bridging molecules such as carbodiimides, diisocyanates, glutaraldehyde and the like. Many enzymes which can be used in these procedures are known and can be utilized.

The preferred are peroxidase,  $\beta$ -glucuronidase,  $\beta$ -D-glucosidase,  $\beta$ -D-galactosidase, urease, glucose oxidase plus peroxidase and alkaline phosphatase. U.S. Patent Nos. 3,654,090, 3,850,752, and 4,016,043 are referred to by way of example for their disclosure of alternate labeling material and methods.

As used herein, "individual" refers to human subjects as well as nonhuman subjects. The examples herein are not meant to limit the methodology of the present invention to human subjects only, as the instant methodology is useful in the fields of veterinary medicine, animal sciences and such.

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In one embodiment of the present invention, there is provided a method for detecting expression of a gene in blood from a subject, comprising the steps of: a) quantifying RNA from a subject blood sample; and b) detecting expression of the gene in the quantified RNA, wherein the expression of the gene in quantified RNA indicates the expression of the gene in the subject blood. An example of the quantifying method is by mass spectrometry.

In another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; and e) detecting expression of the genes in the ESTs, wherein the expression of the genes in the ESTs indicates the expression of the genes in the subject blood. Preferably, the subject is a fetus, an embryo, a child, an adult or a non-human animal. The genes are non-cancer-associated and tissue-specific genes. Still preferably, the amplification is performed by RT-PCR using random sequence primers or gene-specific primers.

In still another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting DNA fragments from the blood sample; c) amplifying the DNA fragments; and d) detecting

expression of the genes in the amplified DNA product, wherein the expression of the genes in the amplified DNA product indicates the expression of the genes in the subject blood.

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In yet another embodiment of the present invention, there is provided a method for monitoring a course of a therapeutic treatment in an individual, comprising the steps of: a) obtaining a blood sample from the individual; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; e) detecting expression of genes in the ESTs, wherein the expression of the genes is associated with the effect of the therapeutic treatment; and f) repeating steps a)-e), wherein the course of the therapeutic treatment is monitored by detecting the change of expression of the genes in the ESTs. Such a method may also be used for monitoring the onset of overt symptoms of a disease, wherein the expression of the genes is associated with the onset of the symptoms. Preferably, the amplification is performed by RT-PCR, and the change of the expression of the genes in the ESTs is monitored by sequencing the ESTs and comparing the resulting sequences at various time points; or by performing single nucleotide polymorphism analysis and detecting the variation of a single nucleotide in the ESTs at various time points.

In still yet another embodiment of the present invention, there is provided a method for diagnosing a disease in a test subject, comprising the steps of:

a) generating a cDNA library for the disease from a whole blood sample from a normal subject; b) generating expressed sequence tag (EST) profile from the normal subject cDNA library; c) generating a cDNA library for the disease from a whole blood sample from a test subject; d) generating EST profile from the test subject cDNA library; and e) comparing the test subject EST profile to the normal subject EST profile, wherein if the test subject EST profile differs from the normal subject EST profile, the test subject might be diagnosed with the disease.

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In still yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) genespecific primers; wherein the primers are designed in such a way that their sequences contain the opposing ends of two adjacent exons for the specific gene with the intron sequence excluded; and b) a carrier, wherein the carrier immobilizes the primer(s). Preferably, the gene-specific primers are selected from the group consisting of insulinspecific primers, atrial natriuretic factor-specific primers, zinc finger protein genespecific primers, beta-myosin heavy chain gene-specific primers, amyloid precurser protein gene-specific primers, and adenomatous polyposis-coli protein gene-specific primers. Further preferably, the gene-specific primers are selected from the group consisting of SEQ ID Nos. 1 and 2; and SEQ ID Nos. 5 and 6. Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease by detecting the quantitative expression levels of specific genes associated with the disease in the test subject and then comparing to the levels of same genes expressed in a normal subject. Such a kit may also be used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of a disease.

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In yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) probes derived from a whole blood sample for a specific disease; and b) a carrier, wherein the carrier immobilizes the probes. Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease by detecting the quantitative expression levels of specific genes associated with the disease in the test subject and then comparing to the levels of same genes expressed in a normal subject. Such a kit may also be used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of a disease.

Furthermore, the present invention provides a cDNA library specific for a disease, wherein the cDNA library is generated from whole blood samples.

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The following examples are given for the purpose of illustrating various embodiments of the invention and are not meant to limit the present invention in any fashion.

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#### **EXAMPLE 1**

#### Construction of a cDNA library

RNA extracted from human tissues (including fetal heart, adult heart, liver, brain, prostate gland and whole blood) were used to construct unidirectional cDNA libraries. The first mammalian heart cDNA library was constructed as early as 1982. Since then, the methodology has been revised and optimal conditions have been developed for construction of human heart and hematopoietic progenitor cDNA libraries (Liew et al., 1984; Liew 1993, Claudio et al., 1998). Most of the novel genes which were identified by sequence annotation can now be obtained as full length transcripts.

#### **EXAMPLE 2**

#### Catalogue of blood cell ESTs

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Random partial sequencing of expressed sequence tags (ESTs) of cDNA clones from the blood cell library was carried out to establish an EST database of blood. The known genes as derived from the ESTs were categorized into seven major cellular functions (Hwang, Dempsey et al., 1997).

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## **EXAMPLE 3**

# Differential screening of cDNA library

cDNA probes generated from transcripts of each tissue were used to hybridize the blood cell cDNA clones (Liew et al., 1997). The "positive" signals which were hybridized with <sup>32</sup>P-labelled cDNA probes were defined as genes which shared identity with blood and respective tissues. The "negative" spots which were not exposed to <sup>32</sup>P-labelled cDNA probes were considered to be blood-cell-enriched or low frequency transcripts.

#### **EXAMPLE 4**

# Reverse transcriptase-polymerase chain reaction (RT-PCR) assay

RNA extracted from samples of human tissue was used for RT-PCR analysis (Jin et al. 1990). Three pairs of forward and reverse primers were designed for human cardiac beta-myosin heavy chain gene (βMyHC), amyloid precurser protein (APP) gene and adenomatous polyposis-coli protein (APC) gene. The PCR products were also subjected to automated DNA sequencing to verify the sequences as derived from the specific transcripts of blood.

#### **EXAMPLE 5**

# Detection of tissue specific gene expression in human blood using RT-PCR

The beta-myosin heavy chain gene (βMyHC) transcript (mRNA) is known to be highly expressed in ventricles of the human heart. This sarcomeric protein is important for heart muscle contraction and its presence would not be expected in other non-muscle tissues and blood. In 1990, the gene for human cardiac

βMyHC was completely sequenced (Liew et al. 1990) and was comprised of 4 exons and 42 introns.

The method of reverse transcription polymerase chain reaction (RT-PCR) was used to determine whether this cardiac specific mRNA is also present in human blood. A pair of primers was designed; the forward primer (SEQ ID No. 3) was on the boundary of exons 21 and 22, and the reverse primer (SEQ ID No. 4) was on the boundary of exons 24 and 25. This region of mRNA is only present in  $\beta$ MyHC and is not found in the alpha-myosin heavy chain gene ( $\alpha$ MyHC).

A blood sample was first treated with lysing buffer and then undergone centrifuge. The resulting pellets were further processed with RT-PCR. RT-PCR was performed using the total blood cell RNA as a template. A nested PCR product was generated and used for sequencing. The sequencing results were subjected to BLAST and the identity of exons 21 to 25 was confirmed to be from βMyHC (Figure 1A).

Using the same method just described, two other tissue specific genes - amyloid precursor protein (APP, forward primer, SEQ ID No. 7; reverse primer, SEQ ID No. 8) found in the brain and associated with Alzheimer's disease, and adenomatous polyposis coli protein (APC) found in the colon and rectum and associated with colorectal cancer (Groden *et al.* 1991; Santoro and Groden 1997) - were also detected in the RNA extracted from human blood (Figure 1B).

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#### EXAMPLE 6

#### Multiple RT-PCR analysis on a drop of blood from a normal/diseased individual

A drop of blood was extracted to obtain RNA to carry out quantitative RT-PCR analysis. Specific primers for the insulin gene were designed: forward primer (5'-GCCCTCTGGGGACCTGAC-3', SEQ ID No. 1) of exon 1 and reverse primer (5'-CCCACCTGCAGGTCCTCT-3", SEQ ID No. 2) of exons 1 and 2 of insulin gene. Such reverse primer was obtained by deleting the intron between the

exons 1 and 2. Blood samples of 4 normal subjects were assayed. It was found that the insulin gene is expressed in the blood and the quantitative expression of the insulin gene in a drop of blood is influenced by fasting and non-fasting states of normal healthy subjects (Figure 2). This very low level of expression of the insulin gene reflects the phenotypic status of a person and strongly suggests that there is a physiological and pathological role for its expression, contrary to the basal or illegitimate theory of transcription suggested by Chelly *et al.* (1989) and Kimoto (1998).

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Same quantitative RT-PCR analysis was performed using insulin specific primers on RNA samples extracted from a drop of blood from a normal healthy person, a person having late-onset diabetes (Type II) and a person having asymptomatic diabetes. It was found that the insulin gene is expressed differentially amongst subjects that are healthy, diagnosed as type II diabetic, and also in an asymptomatic preclinical patient (Figure 3).

Similarly, specific primers for the atrial natriuretic factor (ANF) gene were designed (forward primer, SEQ ID No. 5; reverse primer, SEQ ID No. 6) and RT-PCR analysis was performed on a drop of blood. ANF is known to be highly expressed in heart tissue biopsies and in the plasma of heart failure patients. However, atrial natriuretic factor was observed to be expressed in the blood and the expression of the atrial natriuretic factor gene is significantly higher in the blood of patients with heart failure as compared to the blood of a normal control patient.

Specific primers for the zinc finger protein gene (ZFP, forward primer, SEQ ID No. 9; reverse primer, SEQ ID No. 10) were also designed and RT-PCR analysis was performed on a drop of blood. ZFP is known to be high in heart tissue biopsies of cardiac hypertrophy and heart failure patients. In the present study, the expression of ZFP was observed in the blood as well as differential expression levels of ZFP amongst the normal, diabetic and asymptomatic preclinical subjects (Figure 4); although neither of the non-normal subjects has been specifically diagnosed as

suffering from cardiac hypertrophy and/or heart failure, the higher expression levels of the ZFP gene in their blood may indicate that these subjects are headed in that general direction.

It was hypothesized that a housekeeping gene such as glyceraldehyde dehydrogenase (GADH) which is required and highly expressed in all cells would not be differentially expressed in the blood of normal vs. disease subjects. This hypothesis was confirmed by RT-PCR using GADH specific primers (Figure 4). Thus, GADH is useful as an internal control.

Standardized levels of insulin gene or ZFP gene expressed in a drop of blood were estimated using a housekeeping gene as an internal control relative to insulin or ZFP expressed (Figures 5A & 5B). The levels of insulin gene expressed in each fractionated cell from whole blood were also standardized and shown in Figure 5C.

15 EXAMPLE 7

#### Human blood cell cDNA library

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In order to further substantiate the present invention, differential screening of the human blood cell cDNA library was conducted. cDNA probes derived from human blood, adult heart or brain were respectively hybridized to the human blood cDNA library clones. As shown in Figure 7, more than 95% of the "positively" identified clones are identical between the blood and other tissue samples.

DNA sequencing of randomly selected clones from the human whole blood cell cDNA library was also performed. This allowed information regarding the cellular function of blood to be obtained concurrently with gene identification. More than 20,000 expressed sequence tags (ESTs) have been generated and characterized to date, 17.6% of which did not result in a statistically significant match to entries in the

GenBank databases and thus were designated as "Novel" ESTs. These results are summarized in Figure 7 together with the seven cellular functions related to percent distribution of known genes in blood and in the fetal heart.

From 20,000 ESTs, 1,800 have been identified as known genes which may not all appear in the hemapoietic system. For example, the insulin gene and the atrial natriuretic factor gene have not been detected in these 20,000 ESTs but their transcripts were detected in a drop of blood, strongly suggesting that all transcripts of the human genome can be detected by performing RT-PCR analysis on a drop of blood.

In addition, approximately 400 novel genes have been identified from the 20,000 ESTs characterized to date, and these will be subjected to full length sequencing and open reading frame alignment to reduce the actual number of novel ESTs prior to screening for disease markers.

Analysis of the approximately 6,283 ESTs which have known matches in the GenBank databases revealed that this dataset represents over 1,800 unique genes. These genes have been catalogued into seven cellular functions. Comparisons of this set of unique genes with ESTs derived from human brain, heart, lung and kidney demonstrated a greater than 50% overlap in expression (Table 1).

20 <u>TABLE 1</u>

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Overlap of Genes Expressed in Blood \*

Tissues	ESTs**	Overlap in Blood	ļ
brain	134,000	60%	
heart	65,000	59%	
lung	60,200	58%	
kidney	32,300	54%	

\* Estimated from limited known genes of about 1,800 as derived from the database of 6,297 ESTs from human blood cell library.

\*\* Obtained from the National Centre of Biotechnology Information (NCBI), U.S.A.

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#### **EXAMPLE 8**

#### Blood cell ESTs

The results from the differential screening clearly indicate that the transcripts expressed in the whole blood are reflective of genes expressed in all cells and tissues of the body. More than 95% of detectable spots were identical from two different tissues. The remaining 5% of spots may represent cell- or tissue-specific transcripts; however, results obtained from partial sequencing to generate ESTs of these clones revealed most of them not to be cell- or tissue-specific transcripts. Therefore, the negative spots are postulated to be reflective of low abundance transcripts in the tissue from which the cDNA probes were derived.

An alternative approach that was employed to identify transcripts expressed at low levels is the large-scale generation of expressed sequence tags (ESTs). There is substantial evidence regarding the efficiency of this technology to detect previously characterized (known) and uncharacterized (unknown or novel) genes expressed in the cardiovascular system (Hwang & Dempsey *et al.*. 1997). In the present invention, 20,000 ESTs have been produced from a human blood cell cDNA library and resulted in the identification of approximately 1,800 unique known genes (Table 2)

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In the most recent GenBank release, analysis of more than 300,000 ESTs in the database (dbESTs) generated more than 48,000 gene clusters which are thought to represent approximately 50% of the genes in the human genome. Only 4,800 of the dbESTs are blood-derived. In the present invention, 20,000 ESTs have

been obtained to date from a human blood cDNA library, which provides the world's most informative database with respect to blood cell transcripts. From the limited amount of information generated so far (i.e. 1,800 unique genes), it has already been determined that more than 50% of the transcripts are found in other cells or tissues of the human body (Table 2). Thus, it is expected that by increasing the number of ESTs generated, more genes will be identified that have an overlap in expression between the blood and other tissues. Furthermore, the transcripts for several genes which are known to have tissue-restricted patterns of expression (i.e. βMyHC, APP, APC, ANF, ZFP) have also been demonstrated to be present in blood.

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Most recently, a cDNA library of human hematopoietic progenitor stem cells has also been constructed. From the limited set of 1,000 ESTs, there are at least 200 known genes that are shared with other tissue related genes (Claudio *et al.* 1998).

Table 2 demonstrates the expression of known genes of specific tissues in blood cells. Previously, only the presence of "housekeeping" genes would have been expected. Additionally, the presence of at least 25 of the currently known 500 genes corresponding to molecular drug targets was detected. These molecular drug targets are used in the treatment of a variety of diseases which involve inflammation, renal and cardiovascular function, neoplastic disease, immunomodulation and viral infection (Drews & Ryser, 1997). It is expected that additional novel ESTs will represent future molecular drug targets.

TABLE 2

# Comparison of 1,800 Unique Genes Identified in the Blood Cell cDNA Library to Genes Previously Identified in Specific Tissues

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Gene Identification	No. of ESTs	Accession No.			Tiss	ue [	)istr	ibut	
			ВГ	1 Br	г н		TLi	Lu	
100 kDa coactivator	2	U22055	-	+	<del>                                     </del>	<del>  ```</del>	<del>  -</del>	+	1
10kD protein (BC10)	2	AF053470		+	+	╁──	+	+	
14-3-3 epsilon	2	U54778		+	+	╁┷	┝	+	<del> </del>
14-3-3 protein	11	U28964	<del> </del>	+	+	╂	+	-	
15 kDa selenoprotein (SEP15)	1	AF051894		+	+			+	
1-phosphatidylinositol-4- phosphate 5-kinase isoform C	1	S78798							
23 kD highly basic protein	21	X56932	+	+	+	+	+	+	
2-5A-dependent RNase	1	L10381		<del>                                     </del>		<del>                                     </del>			
2'-5'oligoadenylate synthetase 2 (OAS2)	4	M87284	В						
26S proteasome subunit 11	1	AF086708							· · · · · · · · · · · · · · · · · · ·
36 kDa phosphothyrosine protein	2	AJ223280	1		+				
3-7 gene product (non- exact 86%aa)	1	D64159							
3-phosphoglycerate dehydrogenase (PGAD)	1	AF006043	T	+	+			+	
3-prime-phosphoadenosine 5-prime-phosphosulfate synthase 1 (PAPSS1)	2	U53447	+	+	+	+		+	
46kd mannose 6- phosphate receptor (MPR46) (low match)	, 1	X56257							
5-aminoimidazole-4- carboxamide ribonucleotide transformylase	1	D89976							
5'-nucleotidase	3	D38524	Τ	+			+		
6-phosphofructo-2- kinase/fructose-2,6- biphosphatase 4 (PFKFB4)	1	D49818		+					
6-phosphofructo-2- kinase/fructose-2,6- bisphosphatase (PF2K)	1	AF041829							
71 kd heat shock cognate protein hsc70	23	Y00371							
76 kDa membrane protein (P76)	2	U81006		+	+	+	+	+	
8-oxoguanine DNA glycosylase (OGG1)	1	U96710	В				+	+	
a disintegrin and metalloprotease domain 10 (ADAM10)	1	AF009615	Т				+		
a disintegrin and metalloprotease domain 8 (ADAM8)	1	D26579	В	+					
À kinase anchor protein 95 (AKAP95)	2	Y11997	B, T activated		+			+	
A kinase anchor protein, 149kD (AKAP149)	2	X97335		+	+	+		+	

A4 differentiation-	1 4	LIGANAE	T						
dependent protein (A4),	1 -1 -	U93305			1		1	1	
triple LIM domain protein	1							1	1
(LMO6), and			1		l	Ì	1	1	
synaptophysin (SYP);				•		ļ	1	ĺ	
calcium channel alpha-1					1				ļ
subunit (CACNA1F) ABL and putative M8604	<del> </del>	HOTECI				<u> </u>	<u> </u>	<u> </u>	
Met protein	1 1	U07561	[			1			
Absent in melanoma 1	<del>  1</del>	U83115	+	+	<b></b>	┿	┼	+	ļ
(AIM1)		0001.10		i '				"	
accessory proteins	2	Z31696		+	+	╁┈	+-	╁	
BAP31/BAP29	1		1		İ	1		]	ļ
(DXS1357E) acetyl-Coenzyme A		V 4 70 70 70 70 70 70 70 70 70 70 70 70 70					_		
acvitransferase	2	X12966	+	+	+	+	+	+	
(peroxisomal 3-oxoacyl-						ļ		i i	
Coenzyme A thiolase)	]	ļ			l		1		
(ACAA)	<u> </u>				i	1			
acetyl-Coenzyme A transporter (ACATN)	1	D88152	Tlymphoma	+	+				
acidic 82 kDa protein	4	U15552	ļ		<u> </u>	↓_		<u> </u>	
acidic protein rich in	1				L				
leucines (SSP29)	1	Y07969	В	+	+		+	+	
Aconitase 2, mitochondrial	<del> </del>	U80040	+	+	+	+	├	+	
(ACO2)	,	000010		•	*	T		*	
actin binding protein	1	AF059569				<del>                                     </del>	<del>                                     </del>	_	· *
MAYVEN					<u> </u>	<u> </u>			
actin, beta (ACTB)	158	X04098	Т, В	+	+		+		
actin, beta (ACTB) (non-	1 1	M10277							
exact, low match 73%) actin, gamma (low score)	1	100704				<u> </u>			
	l	K00791							
actin, gamma 1 (ACTG1)	4	X04098	+	+	+	+	+	+	high in many libraries
actin-binding LIM protein	4	D31883		+	+	+		+	
(ABLIM) Actinin, alpha 1 (ACTN1)	8	1405470							
	_	M95178		+	+	+		+	
actinin, alpha 4 (ACTN4)	1	D89980		+	+		+		
activated p21cdc42Hs	1 1	L13738	В	+				+	
kinase (ACK)	i '	210700	1	· 1		ı			!
kinase (ACK) activated RNA polymerase	1					-		_	
activated RNA polymerase Il transcription cofactor 4		X79805	+	+	+	+		+	
activated RNA polymerase Il transcription cofactor 4 (PC4)	1	X79805			+	+		+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription					+	+		+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1)	1	X79805 X55544		+	+	+		+	
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription	1	X79805			_	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription	1	X79805 X55544		+	+	+			
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive	1	X79805 X55544 X15875		+	+	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67)	1	X79805 X55544 X15875		+	+	+			
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4)	1 1 2	X79805 X55544 X15875 M86842		+	+			+	
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene	1	X79805 X55544 X15875		+	+	+			
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4)	1 1 2	X79805 X55544 X15875 M86842		+	+			+	
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX)	1 1 2	X79805 X55544 X15875 M86842 U01147 U03254		+	+			+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A	1 1 2	X79805 X55544 X15875 M86842		+	+			+	
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM)	1 1 2	X79805 X55544 X15875 M86842 U01147 U03254 M16827		+	+			+	
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A	1 1 2	X79805 X55544 X15875 M86842 U01147 U03254		+	+			+	
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long	1 1 2	X79805 X55544 X15875 M86842 U01147 U03254 M16827	+	+	+ +	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL)	1 1 2 3	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682	+	+	+ + +	+	+	+	
activated RNA polymerase Il transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH)	1 1 2 3 3 3	X79805 X55544 X15875 M86842 U01147 U03254 M16827	+	+	+ +	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD)	1 1 2 3	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682	+	+	+ + +	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD)	1 1 2 3 3 3	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682  M62840	+	+	+ + + +	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%)	1 1 2 1 2 3 3 3 2 1	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682  M62840  U91930  AC005328	+	+	+ + + +	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%) adaptin, gamma (ADTG)	1 1 2 3 3 2	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682  M62840  U91930	+	+	+ + + +	+	+	+	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-CoA oxidase (AOX) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%) adaptin, gamma (ADTG) adaptor complex sigma3B	1 1 2 1 2 3 3 3 2 1	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682  M62840  U91930  AC005328	+	+ + + + + + + + + + + + + + + + + + + +	+ + + + +	+	+	+ + +	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%) adaptor complex sigma3B (AP3S3)	1 1 2 3 3 2 1 1 2 2	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682  M62840  U91930  AC005328  Y12226  X99459	+	+ + + + + + + + + + + + + + + + + + + +	+ + + + +	+	+	+ + + + + + + + + + + + + + + + + + + +	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%) adaptor complex sigma3B (AP3S3) adaptor protein p150	1 1 2 3 3 2 1 1 2 1 2 1	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682  M62840  U91930  AC005328  Y12226  X99459  Y08991	+	+ + + + + + + + + + + + + + + + + + + +	+ + + + +	+	+	+ + + + + + + + + + + + + + + + + + + +	
activated RNA polymerase II transcription cofactor 4 (PC4) activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%) adaptor complex sigma3B (AP3S3)	1 1 2 3 3 2 1 1 2 2	X79805  X55544  X15875  M86842  U01147  U03254  M16827  D43682  M62840  U91930  AC005328  Y12226  X99459	+	+ + + + + + + + + + + + + + + + + + + +	+ + + + +	+	+	+ + + + + + + + + + + + + + + + + + + +	

adducin 1 (alpha) (add1)	3	L29296	+	1 +	+	1 +		+	<del></del>
adducin 3 (gamma) (ADD3)	•	U37122	B, W	+	+	<del>                                     </del>	+	+	ļ <u>.</u>
adenine nucleotide	1 2	M57424	D, VV	+	+	<u> </u>	L	<u> </u>	
translocator 2 (fibroblast) (ANT2)	•	14157424		-	•		+		
adenine nucleotide translocator 2 (fibroblast) (ANT2) (non-exact 81%)	1	J02683							
adenine nucleotide translocator 2 (fibroblast)	1	J02683	<del>                                     </del>	-	<u> </u>		-		
(ANT2) (non-exact, 79%) adenine nucleotide translocator 2 (fibroblast)	1	J02683	<del> </del>	-		-	-		
(ANT2) (non-exact, 86%)					L			L	
adenine nucleotide translocator 3 (liver) (ANT3)	3	J03592		+	+		+	+	
adenosine deaminase, RNA-specific (ADAR)	6	U18121		+	+		+		
adenylate cyclase 3 (ADCY3)	2	AF033861		+	+	+	+	+	
adenylate cyclase 7 (ADCY7)	1	D25538		<u> </u>		-		-	
adenylate kinase 2 (AK2)	2	U39945	<del></del>	+	+	-	+	+	
adenylate kinase 3 (AK3) (non-exact, 67%)	7	X60673					-		
adenylyl cyclase- associated protein (CAP)	28	M98474	1		+		+		
adipose differentiation- related protein; adipophilin (ADFP)	1	X97324			+		+	+	
ADP-ribosylation factor 1 (ARF1)	13	M84326		+	+		+	+	
ADP-ribosylation factor 3 (ARF3)	2	M33384		+	+		+		
ADP-ribosylation factor 4 (ARF4)	1	M36341	T lymphoma	+	+			+	
ADP-ribosylation factor 5 (ARF5)	1	M57567			+	+	+	+	
ADP-ribosylation factor domain protein 1, 64kD (ARFD1)	1	L04510		+					
ADP-ribosyltransferase (NAD+; poly (ADP-ribose) polymerase) (ADPRT)	4	M32721	+	+	+	+	+	+	
adrenergic, beta, receptor kinase 1 (ADRBK1)	2	X61157	В	+			+		
adrenoleukodystrophy-like 1 (ALDL1)	1	AJ000327							
AE-binding protein 1 (AEBP1) (non-exact, 62%)	1	D86479							
AF-17	1	U07932							
A-gamma-globin	1	V00514							
A-gamma-globin (chromosome 11 allele)		J00176							
agammaglobulinaemia	1	U78027						$\dashv$	
tyrosine kinase (ATK) AHNAK nucleoprotein	4	M80899	+	+	+	+		+	
(desmoyokin) (AHNAK)				ا					
aminopeptidase (aminopeptidase N, aminopeptidase M.	1	X13276			+		+		
microsomal aminopeptidase, CD13, p150) (ANPEP)									
alcohol dehydrogenase 5 (class III), chi polypeptide (ADH5)	1	M29872					$\dashv$		
aldehyde dehydrogenase 1, soluble (ALDH1)	1	AF003341		+			+	+	

aldehyde dehydrogenase 10 (fatty aldehyde dehydrogenase) (ALDH10)	2	U75286							:
aldehyde reductase 1 (low Km aldose reductase)	3	J04795	В	+	+	+	+	-	
(ALDR1) aldo-keto reductase family 1, member A1 (aldehyde	2	J04794	В	+	+		+	-	
reductase) (AKR1A1) aldo-keto reductase family	1	D17793		+	+	+		+	
1, member C3 (3-alpha hydroxysteroid dehydrogenase, type II) (AKR1C3)						:			
aldo-keto reductase family 7, member A2 (aflatoxin aldehyde reductase) (AKR7A2)	1	Y16675		+	+		+	+	
aldolase A, fructose- bisphosphate (ALDOA)	7	X12447		+	+		+		
aldolase C, fructose- bisphosphate (ALDOC)	2	X05196		+	+		+		
alkaline phosphatase, liver/bone/kidney (ALPL)	1	4502062							
ALL-1 (=L04731;L04284 HRX)	4	Z69780							
alpha mannosidase II isozyme	1	D55649		+			+		·
alpha thalassemia/mental retardation syndrome X- linked (ATRX)	3	U75653	+	+	+	+		+	
alpha-2 macroglobulin	1	Z11711							
alpha-2-globin	2	V00516							
alpha-2-macroglobulin receptor/lipoprotein receptor protein (A2MR/LRP)	1	U06985							
alpha-polypeptide of N- acetyl-alpha- glucosaminidase (HEXA)	1	M13520							
alpha-spectrin	1	X86901		-					
alpha-subunit of Gi2 a (GTP-binding signal transduction protein)	1	X07854							
aminin receptor 1 (67kD); Ribosomal protein SA (LAMR1)	2	J03799		+	+		+	+	
aminolevulinate, delta-, dehydratase (ALAD)	1	X64467		+					
amino-terminal enhancer of split (AES) amino-terminal enhancer of	2	X73358	+	+	+	+		+	
split (AES) AMP deaminase isoform L	- B	U04241 M91029	В	+			_	+	
(AMPD2) amphiphysin (Stiff-Mann	1	U07616	В	+		_		Ţ	
syndrome with breast cancer 128kD autoantigen) (AMPH)								·	
amphiphysin (Stiff-Mann syndrome with breast cancer 128kD autoantigen) (AMPH)(non-exact, 68%)	1	U07616		,					
amphiphysin (Stiff-Mann syndrome with breast cancer 128kD autoantigen) (AMPH)(non-exact, 68%)	1	U07616							
amphiphysin II	4	U87558		+	+		+		
amphiphysin II (67%aa amphiphysin?)	1	AF068915							
amphiphysin II (non-exact 69% aa)	1	AF001383							

amphiphysin-like (AMPHL)	1	U68485		+	T +	Г	П	Т	<del> </del>
amphiphysin-like (AMPHL)	1	AF068918				<del>                                     </del>	$\vdash$		
(low match) AMY-1	1	D50692	В, Т		-	┼	+	├	
amyloid beta (A4)	1	L77864	<del>  -, .</del>	+	+	+	⊢	+	
precursor protein-binding, family B, member 1 (Fe65) (APBB1)	·								
amyloid beta (A4) precursor-like protein 2 (APLP2)	6	L27631	Tlymphoma	+	+		+	+	
ankyrin 3, node of Ranvier (ankyrin G) (ANK) (non- exact, 50%)	1	U43965							
annexin I (lipocortin I) (ANX1)	1	X05908		+	+	+		+	
annexin II	1	D28364			<b>-</b>	1	<del>                                     </del>	$\vdash$	
annexin II (lipocortin II; calpactin I, heavy polypeptide) (ANX2)	7	D00017	+	+	+	+	+	+	high in many libraries
annexin IV (placental anticoagulant protein II) (ANX4)	1	M19383		+	+	+	+	+	
annexin V (endonexin II) (ANX5)	2	M21731		+	+	+		+	
annexin V (endonexin II) (ANXV)	1	M19384		+	+	+		+	
annexin VI (p68) (ANX6)	6	Y00097		+	+	+		+	
annexin VII (synexin) (ANX7)	1	J04543		+	+	+		+	
antigen identified by monoclonal antibodies 12E7, F21 and O13 (MIC2)	2	M16279		+	+	+		+	
antigen identified by monoclonal antibodies 4F2, TRA1.10, TROP4, and T43 (MDU1)	3	J02939		+	+	+	+	+	
antigen TQ1	1				<del>                                     </del>	$\vdash$	_		
anti-oxidant protein 2 (non- selenium glutathione peroxidase, acidic calcium- independent phospholipase A2) (KIAA0106)	1	D14662		+	+	+	+	+	
APEX nuclease (multifunctional DNA repair enzyme) (APEX)	5	X66133		+	+		+	+	
Apolipoprotein L (APOL) (59%aa)	1	Z82215							
apoptosis inhibitor 1 (API1)	1	L49431		+	+	+	+	+	
apoptosis inhibitor 4 (survivin) (API4)	1	U75285	B, W	+	+		+		
apoptosis inhibitor 5 (API5)	1	U83857	Tlymphoma	+			+		
apoptosis specific protein (ASP)	. 1	Y11588	В	+			+	+	
apoptotic protease activating factor (APAF1)	1	AF013263	В	+	+		+		
aquaporin 3 (AQP3)	1	AB001325	Т	$\neg$			+		
aquaporin 9 (AQP9)	7	AB008775	Tactivated				+		
arachidonate 12- lipoxygenase (ALOX12)	1	M58704	1				+	+	
arachidonate 5- lipoxygenase-activating protein (ALOX5AP)	3	X52195	+	+		+		+	
ariadne homolog (ARI)	1	AJ009771	+	+	+	+		+	
ariadne-2 (D. melanogaster) homolog (all-trans retinoic acid inducible RING finger ) (ARI2)	1	AF099149	+	+	+	+		+	

ARP1 (actin-related protein 1, yeast) homolog A (centractin alpha)	1	X82206		+			+					
(ACTR1A) ARP2 (actin-related protein	9	AF006082	<u> </u>	+	L.	<u> </u>	<u> </u>	<u> </u>				
2, yeast) homolog (ACTR2)	•	AF000002		•	+	1	+	+				
ARP2/3 protein compex subunit 34 (ARC34)	5	AF006085	Tactivated, W	+	+	Г	+					
Arp2/3 protein compex subunit p41 (ARC41)	6	AF006084	monocyte stimulated	+	+		+					
Arp2/3 protein compex subunit p41 (ARC41)) (low match)	1	AF006084										
Arp2/3 protein complex subunit p16 (ARC16)	20	AF017807		+	+		+	+				
Arp2/3 protein complex subunit p20 (ARC20)	2	AF006087		+	+	<u> </u>	+	+	<u> </u>			
Arp2/3 protein complex subunit p21(ARC21)	3	AF006086	W				+	+				
ARP3 (actin-related protein 3, yeast) homolog (ACTR3)	11	AF006083	W		+	Г	+	+				
arrestin, beta 2 (ARRB2)	1	AF106941	B, T, W	+	+		+		<del>                                     </del>			
arsA (bacterial) arsenite transporter, ATP-binding, homolog 1 (ASNA1)	1	AF047469	В, Т	+			+					
aryl hydrocarbon receptor nuclear translocator-like (ARNTL)	2	AF044288	В	+	+		+					
aryl hydrocarbon receptor- interacting protein (AIP)	1	U31913	+	+	+	+		+				
arylsulfatase A (ARSA)	1	X52151	Tactivated	+			+	<u> </u>				
asialoglycoprotein receptor	1	M11025	1 douvated			ļ	+	+				
2 (ASĞŘ2)							T	,				
asparaginyl-tRNA synthetase (NARS)	3	D84273		+	+		+					
aspartyl-tRNA synthetase (DARS)	1	J05032	В	+	+		+		_			
ataxia telangiectasia mutated (includes complementation groups A, C and D) (ATM)	1	U82828	В, Т		+		+				<u> </u>	
ataxin-2-like protein A2LP (A2LG)	1	AF034373	B, T activated	+	+			+				
ATF6	7	AF005887	404.00	+			+		_			ᅥ
ATP binding cassette transporter (ABCR) (non-lexact 80%)	1	U88667								- *		
ATP synthase (F1-ATPase) alpha subunit, mitochondrial	1	X59066										_
ATP synthase beta subunit	1	M19482										
ATP synthase, H+	1	X60221	+	+	+	+		+				
transporting, mitochondrial F0 complex, subunit b, isoform 1 (ATP5F1)												
ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c (subunit 9), isoform 1 (ATP5G1)	1	X69907	T activated	+	+		+	+		•		
ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit, isoform 1, cardiac muscle (ATP5A1)	3	D14710										
ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit, isoform 1, cardiac muscle (ATP5A1) (low match)	1	D14710										

ATP synthase, H+ transporting, mitochondrial F1 complex, beta	2	M27132							
polypeptide (ATP5B) ATP synthase, H+	1	D16563		+	+	+	+	_	
transporting, mitochondrial F1 complex, gamma polypeptide 1 (ATP5C1)	·								
ATP synthase, H+ transporting, mitochondrial F1F0, subunit g (ATP5JG)	1	AF092124	+	+	+	+	+	+	
ATP/GTP-binding protein (HEAB)	2	U73524	+	+	+	+		+	
ATPase, Ca++ transporting, ubiquitous (ATP2A3)	5	Z69881		+					
ATPase, H+ transporting, lysosomal (vacuolar proton pump) 21kD (ATP6F)	2	D89052	+	+	+	+		+	
ATPase, H+ transporting, lysosomal (vacuolar proton pump) 31kD (ATP6E)	1	X76228		+	+	+		+	
ATPase, H+ transporting, lysosomal (vacuolar proton pump) 42kD; Vacuolar proton-ATPase, subunit C; V-ATPase, subunit C (ATP6D)	5	X69151		+	+	+		+	
ATPase, H+ transporting, lysosomal (vacuolar proton pump), alpha polypeptide, 70kD, isoform 1 (ATP6A1)	3	L09235		+		+			
ATPase, H+ transporting, lysosomal (vacuolar proton pump), beta polypeptide, 56/58kD, isoform 2 (ATP6B2)	6	X62949	+	+	+	+		+	
ATPase, H+ transporting, lysosomal (vacuolar proton pump), member J (ATP6J)	2	AF038954	+	+	+	+		+	high in testis
ATPase, H+ transporting, lysosomal (vacuolar proton pump), subunit 1 (ATP6S1)	1	D16469		+	+	+		+	
ATP-binding cassette 50 (TNF-alpha stimulated) (ABC50)	1	AF027302	+	+	+	+		+	
ATP-binding cassette protein M-ABC1 (mitochondrial)	1	AF047690		_	_	$\overline{}$			
		A 047000							
ÀTP-dependent RNA helicase	1	AJ010840	1 lymphoma		+		+		
helicase autoantigen (Hs.75528)	1	AJ010840 L05425	T lymphoma		+		+		
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%)		AJ010840 L05425 L05425					+		
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682)	2 1 1	AJ010840 L05425 L05425 U17474		+			+	+	
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682) autoantigen La/SS-B	2 1 1	AJ010840 L05425 L05425 U17474 Z35127	Tactivated	+			+	+	
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682) autoantigen La/SS-B axin (AXIN1)	2 1 1 1	AJ010840 L05425 L05425 U17474	Tactivated	+			+	+	
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682) autoantigen (Hs.75682) autoantigen La/SS-B axin (AXIN1) axonemal dynein heavy chain (DNAH17)	2 1 1 1 1	AJ010840 L05425 L05425 U17474 Z35127 AF009674 AJ000522	T activated				+	+	
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75882) autoantigen (Hs.75882) autoantigen La/SS-B axin (AXIN1) axonemal dynein heavy chain (DNAH17) BAI1-associated protein 3 (BAIAP3) (non-exact 54%)	2 1 1 1 1 1 1 1 1	AJ010840 L05425 L05425 U17474 Z35127 AF009674 AJ000522 AB017111	T activated				+		
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682) autoantigen (Hs.75682) autoantigen La/SS-B axin (AXIN1) axonemal dynein heavy chain (DNAH17) BAI1-associated protein 3 (BAIAP3) (non-exact 54%) basement membrane- induced gene (ICB1)	2 1 1 1 1 1 1 1 1 1 1	AJ010840 L05425 L05425 U17474 Z35127 AF009674 AJ000522 AB017111 AF044896	T activated				+		
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682) autoantigen (Hs.75682) autoantigen La/SS-B axin (AXIN1) axonemal dynein heavy chain (DNAH17) BAI1-associated protein 3 (BAIAP3) (non-exact 54%) basement membrane- induced gene (ICB1) basic leucine zipper nuclear factor 1 (JEM-1) (BLZF1)	2 1 1 1 1 1 1 1 2	AJ010840  L05425  L05425  U17474  Z35127  AF009674  AJ000522  AB017111  AF044896  U79751	T activated  B				+		
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682) autoantigen (Hs.75682) autoantigen La/SS-B axin (AXIN1) axonemal dynein heavy chain (DNAH17) BAI1-associated protein 3 (BAIAP3) (non-exact 54%) basement membrane- induced gene (ICB1) basic leucine zipper nuclear factor 1 (JEM-1) (BLZF1) basic transcription factor 3 (BTF3)	2 1 1 1 1 1 1 2	AJ010840  L05425  L05425  U17474  Z35127  AF009674  AJ000522  AB017111  AF044896  U79751  X74070	T activated			+	+		
helicase autoantigen (Hs.75528) autoantigen (Hs.75528) (non-exact 84%) autoantigen (Hs.75682) autoantigen (Hs.75682) autoantigen (Hs.75682) autoantigen (La/SS-B axin (AXIN1) axonemal dynein heavy chain (DNAH17) BAI1-associated protein 3 (BAIAP3) (non-exact 54%) basement membrane- induced gene (ICB1) basic leucine zipper nuclear factor 1 (JEM-1) (BLZF1) basic transcription factor 3	2 1 1 1 1 1 1 1 2	AJ010840  L05425  L05425  U17474  Z35127  AF009674  AJ000522  AB017111  AF044896  U79751	T activated  B	+	+	+		+	

·									
B-cell CLL/lymphoma 6 (zinc finger protein 51) (BCL6)	1	U00115		+	+				:
B-cell translocation gene 1, anti-proliferative (BTG)	1	X61123			+			+	
BCL2/adenovirus E1B 19kD-interacting protein 2 (BNIP2)	1	U15173	В	+			+	+	
BCL2/adenovirus E1B 19kD-interacting protein 3- like (BNIP3L)	2	AF067396		+	+	+		+	
beclin 1 (coiled-coil, myosin-like BCL2- interacting protein) (BECN1)	1	AF077301	В	+	+		+		
beta-1,2-N- acetylglucosaminyltransfer ase II (MGAT2)	2	U15128							
beta-2-microglobulin (B2M)	63	S82297	+	+	+	+	+	+	high in invasive prostate tumor
beta-hexosaminidase alpha chain (HEXA)	1	M16411							
beta-tubulin	7	V00599	+	+	+	+	+	+	high in many libraries
beta-tubulin (non-exact, 76%)	1	AF070561		1					
beta-tubulin, pseudogene	1	J00315	-						
BING4	1	Z97184		+					
biotinidase (BTD) (non-eact 62%)	1	U03274							
biotinidase (BTD) (non- exact 70%)	1	U03274							
biotinidase (BTD) (non- exact, 56%)	1	U03274							
BIOTINIDASE PRECURSOR	1	P43251							
biphenyl hydrolase-like (serine hydrolase) (BPHL)	1	X81372		+			+		
bone marrow stromal cell antigen 1 (BST1)	1	D21878					+		
box-dependent myc- interacting protein isoform BIN1-10 (BIN1)	1	AF043900							
box-dependent myc- interacting protein isoform BIN1-10 (BIN1) (non-exact, 64%)	1	AF043900							
brain my047 protein	1	AF063605		+	+		+		
branched chain keto acid dehydrogenase E1, alpha polypeptide (maple syrup urine disease) (BCKDHA)	3	Z14093	T	+	+		+		
BRCA1 associated protein- 1 (ubiquitin carboxy- terminal hydrolase) (BAP1)	1	D87462	+	+	+	+			
BRCA1, Rho7 and vati genes, and ipf35	1	L78833							
breakpoint cluster region protein, uterine leiomyoma, 1; barrier to autointegration factor (BCRP1)	2	AF044773		+	+				
breakpoint cluster region protein, uterine leiomyoma, 2 (BCRP2)	2	AF044774		+	+		+	+	
breast cancer anti-estrogen resistance 3 (BCAR3) (non-exact 73%)		U92715							
bromodomain-containing protein, 140kD (peregrin) (BR140)	2	M91585		+					
Bruton's agammaglobulinemia tyrosine kinase (Btk)	1	U13424							

Bruton's tyrosine kinase (BTK)	1	U78027							£1
Bruton's tyrosine kinase (BTK), alpha-D- galactosidase A (GLA), L44-like ribosomal protein (L44L) and FTP3 (FTP3)	1.	U78027							
BS4	1	AF108083							
BTG2 (BTG2)	6	Y09943	+	+	+	+		+	
BTK region clone ftp	1	U78027	+	+	+	+	$\vdash$	+	
BTK region clone ftp-3	1	U01923	· · · · · · · · · · · · · · · · · · ·	+	+		+		
BUB3 (budding uninhibited by benzimidazoles 3, yeast) homolog (BUB3)	4	AF053304	+	+	+	+		+	
butyrate response factor 1 (EGF-response factor 1) (BRF1)	4	X79067	+ "	+	+	+		+	
butyrophilin (BTF1)	7	U90543		+	+		+		
butyrophilin like receptor	1	AB020625.1							
CAG repeat containing (CTG4A)	2	U80744		+	+				
CAGH32	2	U80743		+	+		+		
calcium channel, voltage- dependent, L type, alpha 1D subunit (CACNA1D) (low match)	1	M83566							
calcium/calmodulin- dependent protein kinase (CaM kinase) II gamma (CAMK2G)	1	AF069765		+	+	+		+	
calcium/calmodulin- dependent protein kinase kinase (KIAA0787)		AF101264	В	+	+		+		
calmodulin (=M19311)	7	D45887							
calmodulin 1 (phosphorylase kinase, delta) (CALM1)	6	M27319	В	+	+		+	+	
calnexin (CANX)	3	M94859	T	+			+	+	
calpain, large polypeptide L1 (CAPN1)	5	X04366		+	+		+	+	
calpain, large polypeptide L2 (CANP2)	5	M23254		+	+				
calpain, small polypeptide (CAPN4)	1	X04106		+	+		+	+	
calpastatin (CAST)	3	D16217	<del></del>				+		
Calponin 2	2	D83735		+		+		+	
calponin 2 (CNN2)	1	D83735	В, Т	+			+		
calponin 2 (CNN2) (low score)	1	D83735							
calumenin (CALU)	3	AF013759	В	+	+		+	+	
cAMP response element- binding protein CRE-Bpa (H_GS165L15.1)	4	L05912							
cAMP-dependent protein kinase type II (Ht31)	1	M90360	- 212 - 214						
canicular multispecific organic anion transporter (CMOAT2)	1	AF009670				+	+	+	
capping protein (actin filament) muscle Z-line, alpha 1 (CAPZA1)	6	U56637	В, Т		+			+	
capping protein (actin filament) muscle Z-line, alpha 2 (CAPZA2)	2	U03269	В	+	+				
capping protein (actin filament) muscle Z-line, beta (CAPZB)	1	U03271	+	+	+	+		+	

									C1/CA00/00003
capping protein (actin filament), gelsolin-like (CAPG)	8	M94345	+	+		+		+	
carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase (CAD)	1 -	D78586	+	+	+	+		+	
carbonic anhydrase V, mitochondrial (CA5)	1	L19297		+			+		
carboxypeptidase D (CPD)	3	U65090	В	+	+	<del>                                     </del>	$\vdash$	-	<del></del> -
camitine/acylcamitine translocase (CACT)	1	Y10319	-	+	+	-	+		
Cas-Br-M (murine) ecotropic retroviral	2	X57110					+	_	
transforming sequence (cbl)					i				
(CSNK1A1)	1	L37042	+	+	+	+		+	
casein kinase 2, alpha 1 polypeptide (CSNK2A1)	2	M55265	В	+			+	_	
casein kinase I gamma 3L (CSNK1G3L)	1	AF049090.1							
casein kinase II alpha subunit(=\$72393)	1	X69951							
CASP8 and FADD-like apoptosis regulator (CFLAR)	4	AF015450		+	+	+	+	+	
caspase 1, apoptosis- related cysteine protease (interleukin 1, beta, convertase) (CASP1)	7	U13697	+			+			
caspase 10, apoptosis- related cysteine proteas (CASP10)	1	U60519	B, T activ lymph		Τ		+		
caspase 3, apoptosis- related cysteine protease (CASP3)	3	U13737	В, Т	+	+	+	+		
caspase 4, apoptosis- related cysteine protease (CASP4)	6	U25804	+	+	+	+		+	
caspase 5, apoptosis- related cysteine protease (CASP5)	1	U28015			+				
caspase 8, apoptosis- related cysteine protease (CASP8)	2	X98173		+		+		+	
caspase 9, apoptosis- related cysteine protease (CASP9)	1	U56390	В			+	+		
catalase (CAT)	5	X04076	В	+	+		+		
catechol-O- methyltransferase (COMT)	1	M65213		+	+		+		
catenin (cadherin- associated protein), alpha 1 (102kD) (CTNNA1)	6	D14705		+	+				
cathelicidin antimicrobial peptide (CAMP)	1	X89658	В						
cathepsin B (CTSB)	4	L16510			+		+	+	
cathepsin C (CTSC)	3	U79415		+	+	+		+	
cathepsin D (lysosomal aspartyl protease) (CTSD)	4	M11233		+	+		+		
cathepsin E (CTSE)	1	J05036					+		
cathepsin G (CTSG)	1	M16117	T, W		+				
cathepsin S (CTSS)	34	M86553	B, Monocyte lym	e stimi phoma		, T	+	+	
cathepsin W (lymphopain) (CTSW)	4	AF013611						+	
CBF1 interacting corepressor CIR (=U03644 recepin)	1	AF098297							

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CCAAT/enhancer binding protein (C/EBP), alpha (CEBPA)	3	X87248		+	+	+		+	::
CCAAT/enhancer binding protein (C/EBP), delta (CEBPB)	1	S63168			+		+	+	
CCAAT-box-binding transcription factor (CBF2)	2	M37197	T lymphoma			+	+		
CCR5 receptor (CCR5) (non-exact?)	1	AF011504		_				_	
CD14 antigen (CD14)	11	M86511	+	+	+	+		+	
CD18 (=M95293)	4	X64071					Ī		
CD1C antigen, c polypeptide (CD1C)	2	M28827						+	
CD2 antigen (cytopiasmic tail)-binding protein 2 (CD2BP2)		AF104222							
CD2 antigen (p50), sheep red blood cell receptor (CD2)	4	M14362	+		+	+		+	
CD2 cytoplasmic tail- binding protein 1 (CD2BP1)		AF038602					+		
CD20 antigen (CD20)	1	X12530							
CD20 receptor (S7)	1	X07203							
CD22 antigen (CD22)	1	U62631	В						
CD24 signal transducer	1	M58664							
CD33 antigen (gp67) (CD33)	1	M23197					+		
CD33 antigen-like 2; OB binding protein-2 (CD33L2) (non-exact, 68%)	1	U71383							
CD33L2 (61% aa)	1	D86359							
CD36 antigen (collagen type I receptor, thrombospondin receptor) (CD36)	7	M98398	T lymphoma		+		+	+	
CD37 antigen (CD37)	5	X14046	+	+		+		+	
CD38 alt	1	D84277	<del></del>		-	<del> </del>	-		
CD39 antigen (CD39)	1	U87967	В	+		$\vdash$	+	+	
CD3D antigen, delta polypeptide (TiT3 complex) (CD3D)	1	X03934			+	+		+	
CD3E antigen, epsilon polypeptide (TiT3 complex) (CD3E)	1	X03884	+			+			
CD3G antigen, gamma polypeptide (TiT3 complex) (CD3G)	2	X06026	W				+		
CD3Z antigen, zeta polypeptide (TiT3 complex) (CD3Z)	2	J04132	+			+			
CD3-zeta (clone pBS NK1)	1	X55510					$\vdash$		
CD4 (low match)	1	S68043							
CD4 antigen (p55) (CD4)	4	M12807		+	+		+		
CD44 antigen (homing function and Indian blood group system (CD44)	6	X56794	W				+	+	
CD48 antigen (B-cell membrane protein) (CD48)	3	X06341	+	+	+	+		+	
CD53 antigen (CD53)	10	L11670	+	+		+		+	
CD53 antigen (CD53) (low match)	1	M60871					·		
CD63 antigen (melanoma 1 antigen) (CD63)	3	M59907							
CD68 antigen (CD68)	2	S57235		+	+		+	+	
		- · · · · · · · · · · · · · · · · · · ·							

WO 00/40749

#### PCT/CA00/00005

CD74 antigen (invariant polypeptide of major histocompatibility complex, class II antigen-associated) (CD74)	72	K01144	+	+	+	+	+	+	high in many libraries
	<del></del>	1100100		<u> </u>	ļ	1	<u> </u>	<u> </u>	<u> </u>
CD79A antigen (immunoglobulin- associated alpha) (CD79A)	2	M80462			+				
CD79B antigen	2	M89957	+	<b>├</b>	<del> </del>	┼	↓	<del> </del>	
(immunoglobulin- associated beta) (CD79B)		Mosasi	*	i					
CD8 antigen, alpha polypeptide (p32) (CD8A)	2	M27161	+	<u> </u>		+	<del> </del>	+	
CD8 antigen, beta polypeptide 1 (p37)	1	X13445	W		<del> </del>	-			
(CD8B1)			ļ	į .	1		ĺ	1	1
CD81 antigen (target of antiproliferative antibody 1 (CD81)	1	M33680		+	+			+	
CD83 antigen (activated B lymphocytes, mmunoglobulin	1	Q01151	В	+	+			+	
superfamily) (CD83)				1		1	ł		
CD84 antigen (leukocyte antigen) (CD84)	1	U82988		+	+	$\vdash$		+	
CD86 antigen	1	L25259	<del> </del>	+	$\vdash$	<del>                                     </del>	-	<del>  -</del>	<del>                                     </del>
CD9 antigen (p24) (CD9)	2	M38690	<del> </del>		+	-	+	+	
CD97 antigen (CD97)	12	X84700	+	+	<u> </u>	<del> </del>	<u> </u>	<u> </u>	
CD97 antigen (CD97)			ļ <u>, , , , , , , , , , , , , , , , , , ,</u>			+	$ldsymbol{ldsymbol{ldsymbol{eta}}}$		
(noin-exact 59%) CD97 antigen (CD97) (non-	1	P48960							
exact 62%)	1	X94630	+	+		+			l
CDC23 (cell division cycle 23, yeast, homolog) (CDC23)	1	AF053977		+			+	+	
CDC37 homolog	1	U63131	В	+	+	<u> </u>	+	+	
Cdc42 effector protein 3									
(CEP3)	2	AF104857	В	+	+		+		·
CDC-like kinase (CLK)	1	L29219		+	+	+		+	
CDC-like kinase 2 (CLK2)	1	AF023268	В	+	+				
CDW52 antigen (CAMPATH-1 antigen) (CDW52)	13	X15183	Tactivated	+	+		+		
cell cycle progression restoration 8 protein(CPR8)	1	AF011794							
cell division cycle 10 (homologous to CDC10 of S. cerevisiae) (CDC10)	4	S72008	+	+	+	+		+	
cell division cycle 20, S.cerevisiae homolog (CDC20)	1	U05340		+	+	+			
cell division cycle 25B (CDC25B)	6	Z68092	+	+	+	+		+	
cell division cycle 2-like 1 (PITSLRE proteins) (CDC2L1) (non-exact 42%)	1	AF067514							
cell division cycle 42 (GTP- blnding protein, 25kD) (CDC42)	5	M35543	+	+	+	+		+	
cell division protein (non- exact 68%)	1	AF063015							
CELL-CYCLE NUCLEAR AUTOANTIGEN SG2NA (S/G2 NUCLEAR ANTIGEN)	1	Q13033							
centromere protein B (80kD) (CENPB)	1	X55039	-	+			+		
cep250 centrosome	3	AF022655	В	+		$\vdash$	+		
associated protein			L.,						

ceroid-lipofuscinosis, neuronal 2, late infantile	7	AF017456	+	+	+	+	+	+	high in bone "
(Jansky-Bielschowsky					Ì		1		
disease) (CLN2)							l	l	
c-fgr (=M63877	6	X52206		<del>                                     </del>	<del> </del>	_	<del> </del>	<del> </del>	<del></del>
nonreceptor protein-	$\vee$		1		1			ļ	1
tyrosine kinase (fgr))						1		<u>L</u>	
CGI-19 protein	3	AF132953.1							
chaperonin containing	1	X74801		+	.+	1	$\vdash$	+	
TCP1, subunit 3 (gamma)		Ì			1	ì			1
(CCT3) chaperonin containing	1	AF026291		<u> </u>	+	ļ	Ļ.,	Ļ.,	
TCP1, subunit 4 (delta)	•	AFU20291		+	, T	1	+	+	]
(CCT4)					Į	1			1
chaperonin containing	4	L27706	В	+	+	╁	_		<del></del>
TCP1, subunit 6A (zeta 1)		1	_						
(CCT6A)						1			
chaperonin containing	4	AF026292	В	+		Ι.		+	
TCP1, subunit 7 (eta)				l					·
Chediak-Higashi syndrome	<del></del>	U67615	В. Т	+	+	<del> </del>	+		
11 (CHS1)		00/013	lymphoma	*	T .		+		
Chediak-Higashi syndrome	1	U67615	- ymphonia	<del>                                     </del>	<del> </del>	┼	-	-	
1 (CHS1) (low score)				1		1		ĺ	
chemokine (C-C motif)	4	U03905				T .			
receptor 2 (CCR2)				<u> </u>				<u>L</u>	
chemokine (C-C motif) receptor 4 (CCR4) (low	1	X85740							·
match) (may contain					ĺ				
repeat)									
chemokine (C-C motif)	6	L31581					<del> </del>		
receptor 7 (CCR7)	Ĭ					1	i		
chemokine (C-X3-C)	5	U20350		+		_			
receptor 1 (CX3CR1)									
chemokine (C-X-C motif),	5	M99293	+	+	+	+		+	
receptor 4 (fusin) (CXCR4) chitinase 3-like 1 (cartilage		M80927		<u></u>					
glycoprotein-39) (CHI3L1)	2	M00927		+		+		+	
chitinase 3-like 2 (CHI3L2)	2	U49835		+		+	-	+	· · · · · · · · · · · · · · · · · · ·
chloride channel 1.	<del>-</del> 1	G18280				<u> </u>			
skeletal muscle (CLCN1)	•	G 10200			i				ĺ
chloride channel 6		D28475		+	+				
(CLCN6)		5		·	,				
Chloride intracellular	1	U93205	+	+	+	+		+	
channel 1 (CLIC1)									
chondroitin sulfate	5	X15998			+				
proteoglycan 2 (versican) (CSPG2)									
chondroitin sulfate	2	J02814			+	<u> </u>		+	
proteoglycan core protein	٠ .	302014			-			<b>T</b>	
chromatin assembly factor	1	Q09028	··	$\vdash$		-			
1 p48 subunit (CAF-1 P48									
subunit) (retinoblastoma									
binding protein p48) (retinoblastoma-binding							l		
protein 4) (MSI1 protein				l		.			
homolog)									
chromodomain helicase	2	AF006513	<del></del>	-				-	
DNA binding protein 1	-		į					· [	
(CHD1)									
chromodomain helicase	7	AF054177							
DNA binding protein 1-like (CHD1L)			l				1	- 1	
chromodomain helicase	1	AF006514	В	+	4				
DNA binding protein 2	'	A1 000514	ם ט	T	+		+		
(CHD2)					ļ	<b> </b>			
chromodomain helicase	1	AF006515				$\vdash$			
DNA binding protein 3								1	
(CHD3)									
Chromodomain helicase	5	X86691	+	+	+	+	$\neg$	+	
DNA binding protein 4 (CHD4)			<u> </u>					ı	1
\(\cdot\)									<del></del>

reading frame 7 (C1ORF7)	laboration of an analysis		A FARMEN	<del></del>				,		,			
Itanscript KIAA0493		1	AF054176									٠,	
reading frame 1B (C170RF1)		1 .	AB007962	_									
AF008821	reading frame 1B	1	AJ008112	Т	+								
Chromosome condensation   2	chromosome 4 open	1	AF006621		+	+	+	<u> </u>	+				_
Page	chromosome condensation	2	AF060219		+	+	+	<del>                                     </del>	+			<del></del>	_
Chromosome-associated   2	chromosome X open	1	Y15164	В	+	+	┢	+					_
Gig42	chromosome-associated	2	AF092564	В	+	+	<del> </del>	+	+				_
Gigs   Sample   Sampl	cig42	1	AF026944	<del></del>			-	├—	├—				
Citale synthase (CS)		·		<del></del>	+			<del> </del>		ļ			_
Class   major   histocompatibility antigen   (HLA-CwS)	1	-			<del> </del>		<del> </del>	-	<u> </u>				
histocompatibility antigen (HLA-Cw3) (low match)  class I major histocompatibility antigen (HLA-Cw3) (low match)  clathin seasembly protein lymphoid myeloid leukemia (CALM)  clathin neavy polypeptide like 2 (CLTCL2)  clathin, light polypeptide like 3 (CLTCL2)  clathin, light polypeptide like 2 (CLTCL2)  clathin, light polypeptide like 3 (Lay Cut and light polypeptide like 3 (Lay Cut and light polypeptide like 3 (Lay Cut and light polypeptide like 4 + + + + + + + + + + + + + + + + + +	. , ,	-	1		<del>                                     </del>	<u> </u>	ļ	エ	二	ļ			_
histocompatibility antigen (HLA-Cw3) (low match) Galhinn assembly protein lymphoid mey chain Calthinn heavy chain Calthinn heavy polypeptide- like 2 (CLTCL2) Clathinn, light polypeptide- (Lc3) (CLTA) (low match) Clathinn, light polypeptide- (Lc3) (CLTA) (low match) Clathinn, medium 1 (CLAPM1) Cleavage stimulation factor, 3 pre-RNA, subunit 2 64kD (CSTF2) (non-exact 82%) Claveage stimulation factor, 3 pre-RNA, subunit 3, 7rbc (CSTF3) Claveage stimulation factor, 3 pre-RNA, subunit 3, 7rbc (CSTF3) Claveage stimulation factor, 1 U15782 B + + + + + + + + + + + + + + + + + +	histocompatibility antigen (HLA-Cw3)	_											
Imphoid myeloid leukemia   C(ALM)   Clathrin heavy chain   1	histocompatibility antigen (HLA-Cw3) (low match)	1	U31372								٠		
Cathin, heavy polypeptide   1	lymphoid myeloid leukemia	3	U45976	В	+	+			+				
like 2 (CLTCL2) (althin, light polypeptide (Lca) (CLTA) (low match) clathrin- associated/assembly/adapt or protein, medium 1 (CLAPMI) deavage stimulation factor, 1 3 pre-RNA, subunit 2 64kD (CSTF2) (non-exact 82%) cleavage stimulation factor, 1 3 pre-RNA, subunit 3, 7/kD (CSTF3) dik3 clone 23815 (Hs.82845) 1 L29220 B + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + + +  clone 24592 mRNA 1 D88378 + + +  clone 24592 mRNA 1 D88378 + + + +  clone 24592 mRNA 1 D88378 + +	clathrin heavy chain	1	X55878		+		l						
(Lca) (CLTA) (low match)	like 2 (CLTCL2)	1	D21260										_
Clathrin-associated/assembly/adapt or protein, medium 1		1	M20472										_
or protein, medium 1 (CLAPM1) Cleavage stimulation factor, 3' pre-RNA, subunit 2 64kD (CSTF2) (non-exact 82%) Cleavage stimulation factor, 3' pre-RNA, subunit 3, 7rkD (CSTF3) Clone 23815 (Hs.82845) Clone 23815 (Hs.82845) Clone 23815 (Hs.82845) Clone 24592 mRNA Sequence Clore 24592 mRNA Sequence State 1	clathrin-	3	D63475		+	+	+	+	+				
3' pre-RNA, subunit 2 64kD (CSTF2) (non-exact 82%) cleavage stimulation factor, 3' pre-RNA, subunit 3, 77kD (CSTF3) clk3	or protein, medium 1 (CLAPM1)												
3' pre-RNA, subunit 3, 7rkD (CSTF3) clist   clore 23815 (Hs.82845)	3' pre-ŘNA, subunit 2 64kD (CSTF2) (non-exact 82%)	1										•	,
Clone 23815 (Hs.82845)   1	3' pre-RNA, subunit 3, 77kD (CSTF3)	1	U15782	В	+	+		+					
Clone 24592 mRNA	clk3	7	L29220	В	+	+						·····	
Sequence	, , , ,	1	U90916		+	+			+				
C1qR(p) () Clusterin (complement lysis inhibitor, SP-40,40, sulfated glycoprotein 2, testosterone-repressed prostate message 2, apolipoprotein J) (CLU) CMP-sialic acid transporter (CMPST) CMRF35 3 X66171 C-myc oncogene containing 1 X54629 coxIII coagulation factor II 1 M62424 + + + + + + + + + + + + + + + + + +	1	1	D88378	+	+	+	+		+			ie	
Clusterin (complement lysis inhibitor, SP-40,40, sulfated glycoprotein 2, testosterone-repressed prostate message 2, apolipoprotein J) (CLU)  CMP-sialic acid transporter 1 D87969 B + + (CMPST)  CMRF35 3 X66171  C-myc oncogene containing 1 X54629 coxill  coagulation factor II 1 M62424 + + + + + + + + + + + + + + + + + +		1	U94333										_
CMPST)   3	inhibitor, SP-40,40, sulfated glycoprotein 2, testosterone-repressed prostate message 2, apolipoprotein J) (CLU)	1	M64722	+	+	+	+	+	+				
c-myc oncogene containing 1 X54629  coxIII  coagulation factor II 1 M62424 + + + + + + + + + + + + + + + + + +	CMP-sialic acid transporter (CMPST)	1	D87969	В	+	+				······································			
coxIII  coagulation factor II (thrombin) receptor (F2R)  coagulation factor V (proaccelerin, labile factor) (F5)  coagulation factor XIII a subunit  coagulation factor XIII, A1 polypeptide (F13A1)  coaled vesicle membrane  1	CMRF35	3	1										ᅦ
(thrombin) receptor (F2R)  coagulation factor V (proaccelerin, labile factor) (F5)  coagulation factor XIII a subunit  coagulation factor XIII, A1 6 M14354 + + + + + + + + + + + + + + + + + + +	coxíli	1	X54629										٦
(proaccelerin, labile factor) (F5)  coagulation factor XIII a 3 M21998 subunit coagulation factor XIII, A1 6 M14354 + + + + + + + + + + + + + + + + + + +	(thrombin) receptor (F2R)				+	+			+				٦
subunit         Coagulation factor XIII, A1         6         M14354         +         +         +         +         +           polypeptide (F13A1)         coated vesicle membrane         1         X92098         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         + </td <td>(proaccelerin, labile factor) (F5)</td> <td></td> <td>M14335</td> <td></td> <td>+</td> <td></td> <td>+</td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td></td>	(proaccelerin, labile factor) (F5)		M14335		+		+	+					
polypeptide (F13A1)  coated vesicle membrane 1 X92098 + + + + + +	subunit	3	M21998							•			٦
	polypeptide (F13A1)				+	+	+		+			,	
	coated vesicle membrane protein (RNP24)	1	X92098	+	+	+	+	+	+				

coatomer protein complex,	5	U24105		+		Т	+		г.
subunit alpha (COPA) Cofilin 1 (non-muscle)	13	X95404	+	+	<u> </u>	-	+	+	high in fetal brain
(CFL1)			*			Ľ	Ĺ		ingii iii iotai Diaiii
cold inducible RNA-binding protein (CIRBP)	7	D78134		+	+			+	
cold shock domain protein A (CSDA)	3	X95325		+	+				
collagen, type IX, alpha 2 (COL9A2)	3	AF019406	В				•		
colony stimulating factor 1 receptor, formerly	3	X03663		+		1	+	+	
McDonough feline sarcoma viral (v-fms) oncogene homolog (CSF1R)									
colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage) (CSF2RB)	5	M59941							
colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage) (CSF2RB) (low match)	1	M59941							
colony stimulating factor 3 receptor (granulocyte) (CSF3R)	16	X55720		+					
complement component 5 receptor 1 (C5a ligand) (C5R1)	1	M62505	L '						
conserved gene amplified in osteosarcoma (OS4)	2	AF000152		+	+	+		+	
COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 3 (COPS3)	2	AF031647		+	+			+	
COP9 homolog (HCOP9)	2	U51205	В	+	+	+	+	+	
COPII protein, homolog of s. cerevisiae SEC23p (SEC23A)	4	X97064		+	+				·
copine I (CPNE1)	2	U83246	В	+	+		+		
copine I (CPNE1) (low score)	1	U83246							
coproporphyrinogen oxidase (coproporphyria, harderoporphyria) (CPO)	1	D16611			+		+	+	
core-binding factor, beta subunit (CBFB)	1	L20298		+					
coronin	22	X89109	T, W	+	+		+		
coronin (low match)	1	U34690							
coronin (non-exact, 71%)	1	X89109				<u> </u>		<u> </u>	
cot (cancer Osaka thyroid) oncogene (COT)	1	D14497	+	+	+	+		+	
cryptochrome 1 (photolyase-like) (CRY1)		D84657		+	+			+	
CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) phosphatase, subunit 1 (CTDP1)	1	AF081287		+	+	+		+	
C-terminal binding protein 1 (CTBP1)	1	U37408	В	+	+		+		
C-terminal binding protein 2 (CTBP2)	2	AF016507		+	+		+		
CUG triplet repeat, RNA- binding protein 1 (CUGBP1)	3	U63289		+	+	+		+	
cullin 1 (CUL1)	3	U58087		+	+	+		+	`
cullin 3 (CUL3)	2	U58089		+	+	+		+	
cut (Drosophila)-like 1 (CCAAT displacement protein) (CUTL1)	1	M74099	В	+					
		3,	4						

cyclin D2 (CCND2)	2	D13639		+	+	+	_	+	n
cyclin D3 (CCND3)	5	M92287	B, T lymphoma		+		+		
cyclin G1 (CNNG1)	1	D78341	В	+	+		<del>                                     </del>	+	
cyclin I	3	D50310	В	+		<del>                                     </del>	+	<del> </del>	
cyclin T2 (CNNT2)	1	AF048732	B, T lymphoma	В					
cyclin-dependent kinase 2 (CDK2)	1	X62071	,,						
cyclin-dependent kinase inhibitor (p27Kip1)	1	S76986							
cyclin-dependent kinase inhibitor 1A (p21, Cip1) (CDKN1A)	2	S67388	+	+	+	+	+	+	
CYP2D7-CYP2D6 intergenic region (partial)	1	X90926	<del> </del>						
cystatin B (stefin B) (CSTB)	1	L03558			+		+	+	
cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3)	5	L54057			+				
cytidine deaminase (CDA)	2	L27943					+		
cytochrome b	1	AF042500							
cytochrome b (CYTB) (isolate Aus5)	1	AF042518							
cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene)	2	X05895							
cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB)	2	X04011	+			+		+	
cytochrome C	1	P00001							
cytochrome c oxidase subunit IV (COX4)	1	U90915	T	+	+		+	+	
cytochrome c oxidase subunit Vb (COX5B)	2	M59250					+		·
cytochrome c oxidase subunit VII-related protein (COX7RP)	6	AB007618	+	+	+	+		+	
cytokine suppressive anti- inflammatory drug binding protein 1 (p38 MAP kinase) (CSBP1)	1	L35263	lymphocyte	+	+		+		
Cytoplasmic antiproteinase=38 kda intracellular serine proteinase inhibitor		S69272			+				
cytotoxic granule- associated RNA-binding protein p40-TIA-1	1	S70114							
D123 (D123)	1	D14878	+	+		+		+	
D2-2	1	AF019226							
D38	1	X74802							
damage-specific DNA binding protein 1 (127kD) (DDB1)	2	AJ002955	+	+	+	+	+	+	
DCHT (low match)	1	AF017635							
DEAD/H (Asp-Glu-Ala- Asp/His) box binding protein 1 (DDXBP1)	1	U78524		+	+	+	+	+	
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide (72KD) (P72)	2	U59321	Τ	+	+		+.	+	
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 1 (DDX1)	1	X70649		+	+			+	

								•	C1/CAUU/00005
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide	2	AB001636							:-
15 (DDX15) DEAD/H (Asp-Glu-Ala-	<u> </u>	X11044440			<u> </u>	<u> </u>			
Asp/His) box polypeptide 16 (DDX16)	2	AB011149	+	+	+	+		+	1
DEAD/H (Asp-Glu-Ala-	3	U50553	+	+	+	+	├	+	
Asp/His) box polypeptide 3 (DDX3)									
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 5	37	X15729	+	+	+	+		+	
(RNA helicase, 68kD)									
DEAD/H (Asp-Glu-Ala-	<del>- 1 -</del>	AF015812	+	╁	├	┼	├	-	
Asp/His) box polypeptide 5 (RNA helicase, 68kD)								ł	
(DDX5) (low match)					<u> </u>				
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 6	2	D17532	+	+ "					
I(RNA helicase, 54kD) I(DDX6)									
DEAD/H (Asp-Glu-Ala-	1	D50487		+	+	+		+	
Asp/His) box polypeptide 8 (RNA helicase, 54kD) (DDX8)				ļ I					
DEAD/H (Asp-Glu-Ala-	3	L13848	++	+	+	+	-	+	
Asp/His) box polypeptide 9 (RNA helicase A, nuclear				1					
DNA helicase II;				ĺ					
lleukophysin) (DDX9)	İ.,			ļ	ŀ	ĺ			
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide.	1	AF000985		+	+		+		
Y chromosome (DBY)			1		1				
Death associated protein 3 (DAP3)	2	X83544	+	+	+	+	+	+	
death effector domain- containing protein (DEDD)	1	AF083236		+	+	+		+	
death-associated protein 6 (DAXX)	2	AF039136		+	+	+		+	·
dedicator of cyto-kinesis 2 (DOCK2)	4	D86964	+	+		+		+	
defender against cell death 1 (DAD1)	1	D15057			+		+	+	
Defensin, alpha 1, myeloid- related sequence (DEFA1)	4	L12690				+	+	+	
DEK gene (D6S231E)	1	X64229	В		+	-	+		
delta sleep inducing peptide, immunoreactor (DSIPI)	4	Z50781	+	+	+	+		+	
dendritic cell protein (GA17)	3	AF064603	+	+	+	+	-	+	
deoxycytidine kinase (DCK)	1	M60527							
deoxyribonuclease II, lysosomal (DNASE2)	3	AB004574							
DGS-I	2	L77566	1	+		-			
diacylglycerol kinase	3	D16440				-	-	_	
diacylglycerol kinase alpha (DAGK1) (clone 24)	3	AF064771		+					
diacylglýcerol kinase alpha (DAGK1) (clone 24) (low match)	1	AF064771							
diaphánous (Drosophila, homolog) 1 (DIAPH1)	1	AF051782	B, monocyte stimulated	+	+	$\dashv$	+	+	
diaphorase (NADH) (cytochrome b-5 reductase) (DIA1)	1	Y09501	+	+	+	+	+	+	
differentiated Embryo Chondrocyte expressed gene 1 (DEC1)	1	AB004066		+			+	+	

								C1/CA00/00003
1	AB004066							5.
1.	L23415		-	ļ		-	$\vdash$	
7	X84076		+	+			+	
2	J03620		+			+	+	
1	Y00978	В	+			+		
1	D78013		+	+		+	+	
1	Y10571					<u> </u>		
3	AF053003	В	+	+		+	+	
1	Y13323							
2	AF021819	+	+	+	+		+	İ
1	AJ005821	+		+	+		<b>-</b>	
3	X63692	T activated, lymphoma	+			+	+	
1	AF064019							
2	U91985	T	+	+			+	
1	U17840							
3	M64241	+	+	+	+	+	+	high in many libraries
3	M73547		+	+	+		+	
1	L24498							
1	AJ001309							
1	AJ001309							
1	AF034970							
1	D89060	+	+	+	+	+	+	activated T cell
1	D86198	T activated	+	+		+		
						+		
1	P40879							
f		1		1	- 1			
	1 1 3 3 1 2 1 3 3 3 1 1 1 1 1 1 1 1 1 1	1	1	1	1	1	1. L23415 1 X84076 2 J03620 1 + + + + + + + + + + + + + + + + + + +	1

dual specificity	1 4	X68277	T +	<del></del>					
phosphatase 1 (DUSP1)		A00277		+	+	+	*	+	"
dual specificity phosphatase 11 (RNA/RNP complex 1-interacting) (dusp11)	1	AF023917	+	+	+	+		+	
dual specificity phosphatase 3 (vaccinia virus phosphatase VH1- related) (DUSP3)	1	L05147		+	+		+	+	
dual specificity phosphatase 6 (DUSP6)	6	X93920	+	+	+	+	+	+	
dynactin 1 (p150, Glued (Drosophila) homolog) (DYTN1)	3	X98801							
dynactin 1 (p150, Glued (Drosophila) homolog) (DYTN1) (low match)		X98801	8	+	+				
dynamin 2 (DNM2)	1	L36983							
dynamitin (dynactin complex 50 kD subunit) (DCTN-50) (non-exact 88%)	1	U50733							
dynein, axonemal, heavy polypeptide 17-like (non- exact, 57%aa)	1	X99947							
dynein, cytoplasmic, light intermediate polypeptide 2 (DNCLI2)	1	AF035812	В	+	+			+	
dynein, cytoplasmic, light intermediate polypeptide 2 (DNCLI2) (non-exact, 69%)		AF035812							
dyskeratosis congenita 1, dyskerin (DKC1)	1	U59151	8	+ "			+	+	
dystonia 1, torsion (autosomal dominant) (DYT1)	-	AF007871		+	+	+		+	
dystrobrevin, beta (DTNB)	1	AF022728		+					
dystrophia myotonica- containing WD repeat motif (DMWD)	1	L19267		+	+		+	+	
dystrophia myotonica- protein kinase (DMPK)	1	L08835	+	+	+			+	
dystrophin (muscular dystrophy, Duchenne and Becker types) (DMD) (low match, 59%aa)	1	X14298							
E18-55kDa-associated protein	1	AJ007509	W	+	+		+	+	
E2F transcription factor 3 (E2F3)	2	D38550		+	+	+	+	+	
E2F transcription factor 4, p107/p130-binding (E2F4)	1	X86096	В	+			+	İ	
E2F transcription factor 5, p130-binding (E2F5)	2	U15642	+	+		+		+	
E74-like factor 1 (ets domain transcription factor) (ELF1)	1	M82882	В		+		+	+	
E74-like factor 4 (ets domain transcription factor) (ELF4)	3	U32645		+	+			+	
E74-like factor 4 (ets domain transcription factor) (ELF4) (non-exact, 71%)	1	U32645	_						
early development regulator 2 (homolog of polyhomeotic 2) (EDR2)	4	U89278	+	+	+	+		+	
EBV induced G-protein coupled receptor (EBI2)		L08177	W						
ecotropic viral integration site 2B (EVI2B)	3	M60830		+		+			

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ectin, galactoside-binding, soluble, 1 (galectin 1) (LGALS1)	1	J04456						+	(X)
EGF-like-domain, multiple 4 (EGFL4)	1.	AB011541	· ·						
elF-2-associated p67 homolog	3	U13261	В	+				+	
elastin (supravalvular aortic stenosis, Williams-Beuren syndrome) (ELN) (low match)	1	M24782		+	+				
elav-type RNA-binding protein (ETR-3)	3	U69546							
electron-transfer- flavoprotein, alpha polypeptide (glutaric aciduria II) (ETFA)	2	J04058		+					
ELK3, ETS-domain protein (SRF accessory protein 2) (ELK3)	2	236715			+			+	
elongation factor 1-beta	1	L26404							
elongation factor Ts (mitochondrial protein)	1	AF110399							
elongation factor Tu- nuclear encoded mitochondrial	1	X84694							
eMDC II protein	1	AJ242015.1							
ems1 sequence (mammary tumor and squamous cell carcinoma-associated (p80/85 src substrate) (EMS1)	1	M98343		+	+		+	+	
endogenous retroviral element HC2	1	270664							
endosulfine alpha (ENSA)	1	X99906	· 1	+					
endothelial differentiation, sphingolipid G-protein- coupled receptor, 1 (EDG1)	2	M31210		+	+	+		+	
endothelial differentiation, sphingolipid G-protein- coupled receptor, 1 (EDG1) (low match 66%)	1	M31210							
endothelial monocyte- activating polypeptide (EMAPII)	1	U10117	+	+	+	+		+	
enolase 1, (alpha) (ENO1)	12	M14328	+	+	+	+	+	+	
enolase 2, (gamma, neuronal) (ENO2)	1	X51956		+					,
enolase-alpha	1	D28437							
enoyl Coenzyme A hydratase 1, peroxisomal (ECH1)	2	U16660							
enoyl Coenzyme A hydratase, short chain, 1, mitochondrial (ECHS1)	1	D13900	+	+	+	+	+	+	
ENOYL-COA HYDRATASE, MITOCHONDRIAL PRECURSOR (SHORT CHAIN ENOYL-COA HYDRATASE) (SCEH) (ENOYL-COA HYDRATASE 1) (low match, non-exact 56%)	1	P30084							
epidermal growth factor receptor pathway substrate 15 (EPS15)	2	U07707		. +		+		+	

EPIDIDYMAL SECRETORY PROTEIN E1 PRECURSOR (EPI-1) (HE1) (EPIDIDYMAL	2	Q15668							:-
SECRETORY PROTEIN 14.6) (ESP14.6)									
epithelial membrane protein 3 (EM[P3)	1	U87947	+	+	+	+			
Epoxide hydrolase 1, microsomal (xenobiotic) (EPHX1)	1	L29766							+ only
ERCC2 (=L47234)	1	X52221							
ERF-2	3	U07802	+	+	+	+		+	high in gall bladder
ERp28 protein	1	X94910	+	+	+	+		+	
erythrocyte membrane protein	2	M81635							
erythroleukemic cells K562	2	L25343							
EST (Hs. 189509)	2	U24166							
estrogen receptor-related protein (hERRa1)	1	L38487							
ESTs, Highly similar to ADENYLOSUCCINATE SYNTHETASE	1	X66503	В, Т	+	+				
ESTs, Moderately similar to cysteine-rich fibroblast growth factor receptor	1	U28811	+	+	+	+		+	
ET binding factor 1 (SBF1)	1	U93181	+	+				+	
ets domain protein ERF	1	U15655	+	+	+	+		+	
eukaryotic translation elongation factor 1 alpha 1 (EEF1A1)	326	X03558	Т	+	+			+	
eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) (low match)	<u>"</u> 1	X03558							
eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) (low match)	1	X03558							
eukaryotic translation elongation factor 1 beta 2 (EEF1B2)	5	X60489	+	+	+	+		+	
eukaryotic translation elongation factor 1 delta (guanine nucleotide exchange protein) (EEF1D)	1	Z21507	+	+	+	+	+	+	
eukaryotic translation elongation factor 1 gamma (EEF1G)	31	Z11531							
eukaryotic translation elongation factor 2 (EEF2)	2	X51466		+				+	
eukaryotic translation initiation factor 2, subunit 1 (alpha, 35kD) (EIF2S1)	1	J02645							
eukaryotic translation initiation factor 2, subunit 2 (beta, 38kD ) (EIF2S2)	1	M29536							
eukaryotic translation initiation factor 2, subunit 3 (gamma, 52kD) (EIF2S3)	3	L19161		+	+				
eukaryotic translation initiation factor 3, subunit 10 (theta, 150/170kD) (EIF3S10)	2	U78311							
eukaryotic translation initiation factor 3, subunit 2 (beta, 36kD) (EIF3S2)	3	U36764	+	+	+	+	+	+	high in white blood cells
eukaryotic translation initiation factor 3, subunit 3 (gamma, 40kD) (EIF3S3)	6	U54559	+	+	+	+		+	high in spleen
eukaryotic translation initiation factor 3, subunit 4 (delta, 44kD) (EIF3S4)	9	AF020833		+	+	+		+	

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eukaryotic translation initiation factor 3, subunit 6 (48kD) (EIF3S6)	4	U94175	+	+	+	+		+	high in bladder :-
eukaryotic translation initiation factor 3, subunit 6 (EIF3S6)	1	U62962		+	+	+		+	Highly represented (1.4833 pct) in library 36 human gall bladder
eukaryotic translation initiation factor 3, subunit 7 (zeta, 66/67kD) (EIF3S7)	3	U54558	+	+	+	+		+	
eukaryotic translation initiation factor 3, subunit 8, 110KD (EIF3S8)		U46025	+	+	+	+	+	+	high in testis
eukaryotic translation initiation factor 4 gamma, 1 (EIF4G)	1	AF012088							
eukaryotic translation initiation factor 4 gamma, 1 (EIF4G) (low match)	1	AF012088							
eukaryotic translation initiation factor 4 gamma, 1 (EIF4G1)	2	D12686	4						
eukaryotic translation initiation factor 4 gamma, 2 (EIF4G2)	6	U73824	+	+	+	+	+	+	
eukaryotic translation initiation factor 4 gamma, 2 (EIFG2)	2	U76111	+	+	+	+	+	+	
eukaryotic translation initiation factor 4A, isoform 1 (EIF4A1)	29	D13748							`
eukaryotic translation initiation factor 4A, isoform 2 (EIF4A2)	11	D30655	+	+	+	+	+	+	
eukaryotic translation initiation factor 4B (EIF4B)	18	X55733	+	+	+	+		+	
eukaryotic translation initiation factor 4E (EIF4E)	1	P06730							
Eukaryotic translation initiation factor 4E binding protein 2 (EIF4EBP2)	3	L36056	Т, В	+			+	+	
eukaryotic translation initiation factor 4H (EIF4H)	2	Q15056							
eukaryotic translation initiation factor 5 (EIF5)	2	U49436	+	+	+	+	+	+	
eukaryotic translation termination factor 1 (ETF1)	2	U90176	+	+	+	+		+	
EV12 protein	1	M55266		+ 1					
Ewing sarcoma breakpoint region 1 (EWSR1)	1	X66899	+	+	+	+		+	
EWS/FLI1 activated transcript 2 homolog (EAT-2)	2	AF020264							
EWS-E1A-F chimeric protein	1	U35622							
excision repair cross- complementing rodent repair deficiency, complementation group 1 (includes overlapping antisense sequence)	1	M28650	+	+	+	+		+	
(ERCC1) excision repair cross- complementing rodent repair deficiency, complementation group 5 (xeroderma pigmentosum, complementation group G (Cockayne syndrome)) (ERCC5)	1	X69978		+	+	+		+	
exostoses (multiple)-like 3 (EXTL3)	1	AF001690		+	+	+		+	
F11	1	X77744		+ +		+	$\dashv$		
<del></del>		·		<del> i</del> .					

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F1-ATPase beta subunit (F-1 beta)	2	X03559							r.
Fanconi anaemia group A	2	Z83095							
Fanconi anemia,	1	X99226	+	+	+	+			
complementation group A (FANCA)									
far upstream element	2	U05040	+	+ -	+			+	
(FUSE) binding protein 1							ł '	l	
(FUBP1) famesyl diphosphate	1-	J05262	+	+	+	+	<u> </u>	+	
synthase (famesyl		303202	*	*	<b>,</b>	*	1		
pyrophosphate						ŀ	ŀ	ŀ	[
synthetase,dimethylallyltra									
nstransferase, geranyltranstransferase)									
(FDPS)							ĺ		
farnesyl-diphosphate	2	X69141	+	+	+	+	+	+	
famesyltransferase 1 (FDFT1)		1	•			١.		l	
famesyltransferase, CAAX	2	L00635	<del> </del>	+	+		$\vdash$	-	
box, beta (FNTB)	_			1		L			
Fas ligand (gene and	1	AF044583							
promoter region) Fas-ligand associated	4	U70667	ļ					<b>_</b>	
factor 1	1	070007				1	i		
fatty-acid-Coenzyme A	4	D10040	+	+	+	+	+	+	
ligase, long-chain 1						l	l	l	
(FACL1) Fc fragment of IgA,	1	X54150		-		├	<del> </del>		
receptor for (FCAR)	'	7.54150						ĺ	
Fc tragment of IgE, high	1	M33195	+	<del>  +</del>	+	+		+	
affinity I, receptor for;						1			
gamma polypeptide (FCER1G)						l			
Fc fragment of IgE, low	2	X04772	+	+		<del> </del>			
affinity II, receptor for				1		1		l	
(CD23A) (FCER2) Fc fragment of IgG, low	6	M31932	+	+	+	+	+	+	
affinity IIa, receptor for	b	1013 1932	1	1	*	1	<b>'</b>	*	'
(CD32)		_		1					
Fc fragment of IgG, low	1	X62572	+	+	+	+	+	+	
affinity IIa, receptor for (CD32) (FCGR2A)				l.					
Fc fragment of IgG, low	34	X07934	+	+	+	+		+	
affinity Illa, receptor for					l				
(CD16) (FCGR3A) Fc fragment of IgG.	3	U12255		+	+	+	+	+	high in many libraries
receptor, transporter, alpha l	3	012233	1	'	'	'	} `		Ingir in many incremes
(FCGRT)									
fc-fgr	1	Z13983				<u> </u>	<u> </u>	<u> </u>	
Fc-gamma-receptorIIIB	2	M90746							
(FCGR3B) feline sarcoma (Snyder-	3	X06292	<del> </del>	+		-	-	├—	
Theilen) viral (v-	J	7,00202	ŀ	ı	i			İ	
fes)/Fujinami avian			ŀ	1					
sarcoma (PRCII) viral (v- lfps) oncogene				1					
homolog(FES) c-fes/fps)					1				
female sterile homeotic-	2	X96670	+	+	+	+		+	
related gene 1 (mouse		·					1		
homolog) (FSRG1) ferritin L-chain	9	Y09188		+	<del></del>	<del> </del>	-	-	
ferritin, heavy polypeptide 1	4	M11146	+	+	+	+	+	+	
(FTH1)	7			'	'	]	ľ		
fertilin alpha pseudogene	1	Y09232		$\top$		1			
fetal Alzheimer antigen	2	U05237		+		<del>                                     </del>			<b> </b>
(FALZ)					<b></b>	<b></b>			
fetal Ig heavy chain variable region	1	M34024						1	
fibrillarin (FBL)	1	X56597	+	+	+	+	+	+	<del> </del>
fibrinogen-like protein 2	- 3	Z36531		+		+	-	-	
(T49)			<u></u>			L		L	
			12						

receptor 2 (bacteria expressed kinner) (receptor 2 (bacteria expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (receptor expressed kinner) (recept	11 3 00/40/49								•	CITCAUU/00003
keratincyte growth factor receptor, craniofacial dysostosis 1, Crouzon syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndrome, syndr		1	M35718	+	T +	+	+	+	+	
dysostosis 1, Crouzon syndrome, Plefifer syndrome, Syndrome syndrome, Plefifer syndrome, Plefifer syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome, Syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome syndrome	keratinocyte growth factor									
Pfeiffer syndrome   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-Weiss (PGFR2)   Jackson-	dysostosis 1, Crouzon									
DB3920	Pfeiffer syndrome.									
	ticolin (collagen/fibrancien	10	1783050		-		1	<u> </u>	-	
binding protein-280  (FLNA)	domain-containing) 1 (FCN1)									
binding protein-278	binding protein-280) (FLNA)	2	X53416							
Sarcoma virus (FBR-MuSV)   witiguitously expressed (fox derived): ribosomal protein   1	binding protein-278) (FLNB)	1	AF043045		+	+		+		
ubiquitously expressed (fox derived); ribosomal protein S30 (FAU)  FKS06 binding protein 1  FKS06 binding protein 1A  (12b) (FK80P1A)  FKS06 binding protein 1B  (12c) (FK80P1A)  FKS06 binding protein 1B  (12c) (FK80P1A)  FKS06 binding protein 1B  (12c) (FK80P1A)  FKS06 binding protein 1B  (12c) (FK80P1A)  FKS06 binding protein 1B  (12c) (FK80P1A)  FKS06 binding protein 5  (FK80P1A)  FKS06 binding protein 5  (FK80P1A)  FKS06 binding protein 5  (FK80P1A)  FKS06 binding protein 5  (FK80P1A)  FKS06 binding protein 5  (FK80P1A)  FKS06 binding protein 5  (FK80P1A)  FKS06 binding protein 6  (FK80P1A)  FKS06 binding protein 7  (FK80P1A)  TKS06 binding protein 7  (FK80P1A)  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein 7  TKS06 binding protein	Finkel-Biskis-Reilly murine sarcoma virus (FBR-MuSV)	2	X65923	+	+	+	+	+	+	
FKS08-binding protein 1A	ubiquitously expressed (fox derived); ribosomal protein									neoplasia and invasive prostate
(12KD) (FKBP1A)  FKS06-binding protein 18 (12.6 kD) (FKBP1B)  FKS06-binding protein 5  (FKBP5)  Fightless (Urosophila)  Authorition 1 Us0184  Flightless (Urosophila)  Authorition 1 Us0184  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  AB007447  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FLN29 (FLN29)  FL	FK-506 binding protein	1	M80199	+	+	+	+	_	+	turior
KS06-binding protein 18	FK506-binding protein 1A (12kD) (FKBP1A)	2	M34539						-	
(FKBP5) Flightless I (Drosophila) homolog (FLII) Flightless I (Drosophila) homolog (FLII) (low match) FLN29 (FLN29) 2 AB007447 + + + + + floillin 2 (FLOT2) 5 M60922 + + + + + + floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 2 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 3 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floillin 4 (FLOT2) floilli	FK506-binding protein 1B (12.6 kD) (FKBP1B)	1	M92423	*	+		+		+	·
Namolog (FLII)   Namolog (FLII) (Iow match)   Namolog (FLII) (Iow match)   Namolog (FLII) (Iow match)   Namolog (FLII) (Iow match)   Namolog (FLII) (Iow match)   Namolog (FLII) (Iow match)   Namolog (FLII) (Iow match)   Namolog (Ioxida receptor 2 (fetal)   Namolog (Ioxida Receptor 2 (fetal)   Namolog (Ioxida Receptor 3 (Ioxida Receptor 3 (Ioxida Receptor 3 (Ioxida Receptor 3 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Receptor 4 (Ioxida Recep	(FKBP5)		U71321		+	+	+		+	
homolog (F.LI) (low match)	homolog (FLII)				+					·
Solid   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Control   Contro	homolog (FLII) (low match)									
Totale receptor 2 (fetal)	, , ,				+		+		+	
(FOLR2)  forkhead (Drosophila)     homolog (mabdomyosarcoma) like 1 (FKHRL1)  Formyl peptide receptor 1     (FPR1)  formyl peptide receptor-like     1	· · ·		M60922	+	+	+	+	+	+	
homolog	(FOLR2)					+	+			·
Formyl peptide receptor 1	homolog  (rhabdomyosarcoma) like 1	1	AF032886	+	+		+		+	
Tormyl peptide receptor-like	Formyl peptide receptor 1	9	M60627	+	+	+	+		+	
1 (FPRL1) (low score)         fragile X mental retardation       1       L29074       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +	formyl peptide receptor-like	1	M84562	· · ·						libraries from
1 (FMR1)       1       U25165       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       <	1 (FPRL1) (low score)									
retardation, autosomal homolog 1 (FXR1) Friend leukemia virus 3 M93255 + + + integration 1 (FLI1) fructose-bisphosphatase 1 D26054 + + + + FUS (low match) fructose-bisphosphatase 1 D26054 + + + + FUS (low match)  AM93255 + + +	fragile X mental retardation (FMR1)	1		+	+		+		+	
integration 1 (FLI1) fructose-bisphosphatase 1 (FBP1) FSHD-associated repeat DNA, proximal region fucose-1-phosphate guanylyltransferase (FPGT) full length insert cDNA clone ZA78A09 full length insert cDNA YP07G10 fumarate hydratase (FH) FUS (low match) FYN-binding protein (FYB-  1 D26054 + + + + + + + + + + + + + + + + + + +	retardation, autosomal homolog 1 (FXR1)	1	U25165	+	<b>†</b>	+	+			
(FBP1)       (FBP1)         FSHD-associated repeat       1         DNA, proximal region       1         fucose-1-phosphate       1         guanylyltransferase       1         (FPGT)       4         full length insert cDNA       1         clone ZA78A09       1         full length insert cDNA       1         YP07G10       4         fumarate hydratase (FH)       1         U59309       +         +       +         FVN-binding protein (FYB-       16         U93049       +	integration 1 (FLI1)			+	+					
DNA, proximal region fucose-1-phosphate guanylyltransferase (FPGT) full length insert cDNA clone ZA78A09 full length insert cDNA 1	(FBP1)						+		+	
guanylyltransferase     (FPGT)       full length insert cDNA     1       clone ZA78A09     2       full length insert cDNA     1       YP07G10     4       fumarate hydratase (FH)     1       U59309     +       FYN-binding protein (FYB-     16       U93049     +       AF075061     +       VP07G10     +       FYN-binding protein (FYB-     16       U93049     +       FYN-binding protein (FYB-     16	DNA, proximal region									
Clone ZA78A09	guanylyltransferase (FPGT)				+	+	+	. ]		
YP07G10         1         U59309         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         + <t< td=""><td>icione ZA78A09</td><td>·</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	icione ZA78A09	·								
FUS (low match) 1 X99006	YP07G10									
FYN-binding protein (FYB- 16 U93049 + + +	, , , , ,				+	+	+		+	
FYN-binding protein (FYB- 16 U93049 + + + 120/130) (FYB)	, , , , , ,									
	FYN-binding protein (FYB- 120/130) (FYB)	16	U93049		+		+			

								-	
G alpha interacting protein (GAIP) (low score)	1	X91809							:,
G protein beta subunit-like protein 12.3	2	D28398		1		<b></b>			
G protein-coupled receptor	1	X81892		+	<u> </u>	+		_	
64 (HE6) (non-exact 59%) G protein-coupled receptor	2	L16862	+	+	+			+	<u></u>
kinase 6 (GPRK6)	_		<b>T</b>			<u> </u>	Ļ		
G1 to S phase transition 1 (GSPT1)	2	X17644		+	+	+	+	+	
GA-binding protein transcription factor, beta subunit 2 (47kD) (GABPB2)		D13316		+	+	+	+	+	
galactose-1-phosphate uridylyltransferase (GALT)	2	M60091							
galactosidase, beta 1 (GLB1)	3	M27508		+		<del>                                     </del>	+	+	
galactosyltransferase (=X13223 N- acetylglucosamide-(beta 1- 4)-galactosyltransferase)	1	M13701							
galectin-9 isoform	1	AB006782	+			+		+	
gamma2-adaptin (G2AD)	1	AF068706	+	+		+		+	
gamma-actin	2	M37130							
gamma-aminobutyric acid (GABA) B receptor 1 (GABBR1)	2	AJ012187		+	+			+	
GATA-binding protein 2 (GATA2)	1	M68891	,			+		+	
GATA-binding protein 3 (GATA3)	1	M69106			+	+		+	
GCN5 (general control of amino-acid synthesis, yeast, homolog)-like 1 (GCN5L1)	3	D64007	+	+	+	+		+	
GDP dissociation inhibitor	1	D45021	+	+	+	+		+	high in adult brain
GDP dissociation inhibitor 2 (GCI2)	4	Y13286							
GDS-related protein (HKE1.5)	4	U68142	+	+	+	+		+	
gelsolin (amyloidosis, Finnish type) (GSN)	3	X04412		+	+	+	+	+	
general transcription factor	4	Y14946	+	+	+	+	+	+	
general transcription factor II, i, pseudogene 1 (GTF2IP1)	1	AF038968	+	+	+	+	+	+	high in fetal brain
general transcription factor IIF, polypeptide 1 (74kD subunit) (GTF2F1)	4	X64037	+	+	+	+		+	
general transcription factor IIH, polypeptide 3 (34kD subunit) (GTF2H3)	2	Z30093	В, Т						
general transcription factor IIH, polypeptide 4 (52kD subunit) (GTF2H4)	3	Y07595		+		+		+	
general transcription factor IIIA (GTF3A)	1	U14134	+	+		+		+	
general transcription factor IIIC, polypeptide 1 (alpha subunit, 220kD) (GTF3C1)	1	U02619		+		+			
general transcription factor IIIC, polypeptide 2 (beta subunit, 110kD) (GTF3C2)	3	D13636	+	+	+	+	+	+	
germline immunoglobulin heavy chain (IGHV@)	1	L06612							
germline immunoglobulin heavy chain, variabl region	1	X92236							
germline immunoglobulin	1	X92343		+					
heavy chain, variable									1
region, (21-2)		<u> </u>	~						

								_	CITCHOOTOGGS
GLE1 (yeast homolog)-like, RNA export mediator (GLE1L)	1	AF058922		+	+				ř.
glia maturation factor, beta	1 :	AB001106	+	+		+		+	
glioma-associated oncogene homolog (zinc	1	X07384							
finger protein) (GLI) glioma-associated	1	X07384		+		-	-		
oncogene homolog (zinc finger protein) (GLI) (low score)									
globin, alpha 2	1	V00516		1					
glucocorticoid receptor (=M69104)	1	M32284							
glucocorticoid receptor (GRL)	2	U80947	+	+	+	+		+	
glucos phosphate isomerase (CONTAINS LARGE REPEAT)	1	L09105							
glucosamine (N-ácetyl)-6- sulfatase (Sanfilippo disease IIID) (GNS)	1	Z12173	+						
glucosamine (N-acetyl)-6- sulfatase (Sanfilippo disease IIID) (GNS) (non- exact 56%)	•	Z12173							
glucose transporter-like protein-III (GLUT3)	1	M20681		+	+	+	+	+	
glucose transporter-like protein-III (GLUT3) (low match)	1	M20681							
glucosidase, alpha; acid (Pompe disease, glycogen storage disease type II) (GAA)	1	Y00839	+	+		+		+	
glucosidase, beta; acid (includes glucosylceramidase) (GBA)	1	K02920	+	+	+	+		+	
glutamate dehydrogenase 1 (GLUD1)	1	M20867	<del></del>	+	+	+	+	+	
glutamate-ammonia ligase (glutamine synthase) (GLUL)	12	X59834	+	+	+	+		+	
glutamate-ammonia ligase (glutamine synthase) (GLUL) (low score)	1	Y00387							
glutamate-cysteine ligase (gamma-glutamylcysteine synthetase), catalytic (72.8kD) (GLCLC)	1	M90656				+			
glutamine cyclotransferase	1	X71125		+	+	_		_	
glutamine-fructose-6- phosphate transaminase 1	1	M90516		+		+			
(GFPT1) glutaminyFtRNA synthetase	1	X72396							
glutaminyFtRNA synthetase (QARS)	6	X76013	+	+	+	+		+	
glutamyl-prolyl-tRNA synthetase (EPRS)	1	X54326							
glutathione peroxidase 1 (GPX1)	2	M21304	+	+	+	+	+	+	
glutathione peroxidase 4 (phospholipid	1	X71973	+	+	+	+		+	
hydroperoxidase) (GPX4) glutathione S-transferase pi (GSTP1)	1	U30897		+	+	+	+	+	
glutathione S-transferase subunit 13 homolog	1	AF070657		+					
glyceraldehyde-3- phosphate dehydrogenase (GAPD)	12	J02642	<del></del>				+		
(OAFU)		1					لــــا		

glycogenin (GYG)		U31525		+	+	T +		+	
glycophorin C (Gerbich blood group) (GYPC)	1	X12496		+	+	+	<u> </u>	+	
glycoprotein M6B (GPM6B)	1	U45955		+	+	├	├	┼─	
glycyl-tRNA synthetase	1	U09587		+	+	+	-	+	
(GARS)							<u> </u>		
glyoxalase i (lactoyl glutathione lyase) (GLYI)	1	L07837	+	+	+	+		+	
golgi autoantigen, golgin subfamily a, 1 (GOLGA1)	1	U51587		+		+			
golgi autoantigen, golgin subfamily a, 2 (GOLGA2) (non-exact, 70%)	1	L06147							
golgi autoantigen, golgin subfamily a, 4 (GOLGA4)	1	U31906							
golgi autoantigen, golgin subfamily b, macrogolgin (with transmembrane signal), 1 (GOLGB1)	1	X75304		+	+	+		+	
gp25L2 protein	4	X90872				I	<b>†</b>		
grancalcin	8	M81637		+	+	+			
granulin (GRN)	16	X62320	+	+	+	+		+	
granulin (GRN) (low match)	1	X62320		I		T	$\vdash$	Т	
Granulysin (NKG5)	5	M85276	+					+	
granzyme A (granzyme 1, cytotoxic T-lymphocyte-associated serine esterase 3) (GZMA)	1	M18737	+	+	+	+		+	
GRB2-related adaptor protein (GRAP)	1	U52518	Tonly						
Grb2-related adaptor protein 2 (GRAP2)	1	AF090456	T				+		
GRO1 oncogene (melanoma growth stimulating activity, alpha) (GRO1)	1	X54489				+		+	
growth arrest and DNA- damage-inducible gene (GADD153)	1	S40706							·
growth arrest-specific 7 (GAS7)	4	AB007854		+	+				
growth factor receptor- bound protein 2 (GRB2)	1	X62852	В	+			+	+	
GS1 (protein of unknown function)		M86934		+	+	+			
GS3955	4	D87119		+	+	+		+	
GTP binding protein 1 (GTPBP1)	1	U87964		+	+	+			
GTP binding protein similar to S. cerevisiae HBS1 (HBS1)	1	U87791		+	+	+		+	
GTPase activating protein- like (GAPL)	1	AB011110		+	+	+		+	high fetal brain
GTP-binding protein (low match)	1	Z49068							
GTP-binding protein G(K), alpha subunit (=G(I) ALPHA-3)(=GTP-binding regulatory protein Gi alpha- 3 chain)	1	P08754							
Gu protein (GURDB)	2	U41387	+		+	+		+	
guanine nucleotide binding protein	1		***************************************						
guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2 (GNAI2)	4	J03004	+	+	+	+		+	

PCT/CA00/00005

GUANINE NUCLEOTIDE-	***************************************									C1/CA00/00003
guarine nucleotide binding protein (a protein), alpha stimulaling activity polypeptide (1 protein), alpha stimulaling activity polypeptide (2 protein), alpha stimulaling activity polypeptide (3 protein) (brotein) (br	protein (G protein), alpha inhibiting activity	7	M20597	+	+	+	+		+	"
incident (G protein), alpha stimulating activities of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control	polypeptide 3 (GNAI3)					1	1	L		
protein (C protein), alpha transducing activity colypepide 2 (GNAT2) (guarine nucleotide binding protein (C protein), beta 5 (GN85) (GN85) (GN85) (GN85) (GN85) (GN85) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (GN86) (	protein (G protein), alpha stimulating activity polypeptide 1 (GNAS1)	_		в, т	+			+	+	
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protein (G protein), beta polyopeptide 1 (GNB1) guanine nucleotide binding protein (G protein), q polyopeptide 1 (GNB1) guanine nucleotide binding protein-like 1 (GNL1) guanine nucleotide binding protein-like 1 (GNL1) guanine nucleotide exchange factor guanine nucleotide exchange factor guanine nucleotide exchange factor guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide regulatory factor (LFP40) guanine nucleotide for factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory factory	protein (G protein), beta 5 (GNB5)				+	†	+		+	
District   Grotein   Q   Deployeptide (GNAC)   Quanine nucleotide binding protein-like   (GNL1)   Quanine nucleotide sexhange factor   Gunne nucleotide   1	protein (G protein), beta polypeptide 1 (GNB1)				+	+	+	+	+	
Interferon-inducible   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   Charles   C	protein (G protein), q polypeptide (GNAQ)				+	+	+.			
Sxchange factor   Sylamine nucleotide   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory facto	protein-like 1 (GNL1)				<u> </u>	+	l		+	
Tegulatory factor (LFP40)   Guarnien nucleotide   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegula	exchange factor									
Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulatory factor (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40)   Tegulator (LFP40	regulatory factor (LFP40)								+	
BINDING PROTEIN BETA   SUBUNT-LIKE PROTEIN   12.3 (P205) (RECEPTOR OF ACTIVATED PROTEIN   12.3 (P205) (RECEPTOR OF ACTIVATED PROTEIN   1	regulatory factor (LFP40)			+	+	+	+		+	
Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Touristic   Tour	BINDING PROTEIN BETA SUBUNIT-LIKE PROTEIN 12.3 (P205) (RECEPTOR OF ACTIVATED PROTEIN	1	P25388							
guanosine monophosphate reductase (GMPR) (non-exact, 72%)         1         M24470         Head of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the protein of the pro	GUANINE- MONOPHOSPHATE	1	U10860			+				
Ikke protein   guanylate binding protein   2   M55542   + + + + + + + + +   +   +   +   +	guanosine monophosphate reductase (GMPR) (non-	1	M24470							
1, interferon-inducible, 67kD (GBP1)       67kD (GBP1)         guanylate binding protein       6       M55543       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +		1	AF016032							
2, interferon-inducible (GBP2) H2A histone family,	67kD (GBP1)	2	M55542		+	+	+	+	+	
member C (H2AFC)       HZA histone family, member Y (H2AY)       2       AF041483       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       + <td>2, interferon-inducible (GBP2)</td> <td>6</td> <td>M55543</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td></td> <td>+</td> <td></td>	2, interferon-inducible (GBP2)	6	M55543	+	+	+	+		+	
member Y (H2AY)         2         Z80783         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +         +	H2A histone family, member C (H2AFC)	1	Z83742							
Member L (H2BFL)	member Y (H2AY)			+	+	+	+		+	
H-2K binding factor-2	member L (H2BFL)			+	+	+	+	+	+	
H3 histone family, member K (H3FK)  H3 histone, family 3A 7 M11353 + + + + + + high in ovary (H3F3A)  H3 histone, family 3B 15 Z48950 + + + + + + high in endothelial cells  hbc647 1 U68494 + + + + + + high in endothelial cells  heat shock 27kD protein 1 1 U12404 + + + + + + high in testis (HSPB1)  heat shock 40kD protein 1 4 D85429 + + + + + + + high in testis (HSPF1)  heat shock 60kD protein 1 3 M22382 + + + + + + high in activated 1	h2-calponin	1	D86059							
K (H3FK) H3 histone, family 3A (H3F3A) H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H3 histone, family 3B H4 + + + + + + + + + + + + + + + + + + +	H-2K binding factor-2	1	L08904		+	+	+		+	
(H3F3A) H3 histone, family 3B (H3.3B) (H3F3B) hbc847  1 U68494 + + + + + + high in endothelial cells hbc847  1 U12404 + + + + + + high in testis (HSPB1) heat shock 40kD protein 1 (HSPE1) heat shock 40kD protein 1 (HSPE1) heat shock 60kD protein 1 (chaperonin) (HSPD1) heat shock 70kD protein 1 7 M59828 + + + + + high in activated 1	H3 histone family, member K (H3FK)	1	Z83735			.,,,,,,	-			
(H3.3B) (H3F3B) hbc847 1 U68494 + + + + + heat shock 27kD protein 1 (HSPB1) heat shock 40kD protein 1 (HSPF1) heat shock 60kD protein 1 (chaperonin) (HSPD1) heat shock 70kD protein 1 7 M59828 + + + + + high in activated T	H3 histone, family 3A (H3F3A)		M11353	+	+	+	+		+	high in ovary
heat shock 27kD protein 1				+	+	+	+		+	
(HSPB1) heat shock 40kD protein 1	hbc647	1	U68494		+	+	+	+		
(HSPF1) heat shock 60kD protein 1 3 M22382 + + + + + + + + + + + + + + + + + + +		1	U12404	<del></del>	+	+		+.	+	
(chaperonin) (HSPD1) heat shock 70kD protein 1 7 M59828 + + + + + high in activated T	heat shock 40kD protein 1 (HSPF1)		1			+	+	+	+	high in testis
						+	+	+		<u> </u>
		7	M59828	+	+	+	+	+	+	

heat shock 70kD protein 5 (glucose-regulated protein, 78kD) (HSPA5)	13	X87949		+	+		+		<b>:</b> ,
heat shock 70kD protein 6 (HSP70B') (HSPA6)	4	X51757	+	+	+				
heat shock 70kD protein 9B (mortalin-2) (HSPA9B)	2	L15189		+	+	+	+	+	·
HEAT SHOCK COGNATE 71 KD PROTEIN	1	P11142							
heat shock factor binding protein 1 (HSBP1)	2	AF068754							
heat shock protein 90	13	M27024	+	+	+	+	+	+	high in many libraries
heat shock protein, DNAJ- like 2 (HSJ2)	1	D13388		+	+		+	+	
Hect (homologous to the E6-AP (UBE3A) carboxyl terminus) domain and RCC1 (CHC1)-like domain (RLD) 1 (HERC1)	1	U50078		+	+	+			
hect domain and RLD 2 (HERC2)	1	AB002391	+	+	+	+		+	
helicase-like protein (HLP)	1	X98378	+	+		+		+	
helix-loop-helix protein HE47 (E2A)	1	M65214						+	
hematopoietic cell-specific Lyn substrate 1 (HCLS1)	18	X16663	+		+	+		+	
heme oxygenase (decycling) 1 (HMOX1)	1	X06985		+		+	+	+	
HEMOGĽÓBÍN ALPHÁ CHAIN	1	P19015							
hemoglobin beta (beta globin)	5	AF117710							
hemoglobin, alpha 1 (HBA1)	301	V00491			+		+	+	
hemoglobin, alpha 1 (HBA1) (low match)	1	V00491							
hemoglobin, alpha 1 (low match)	1	V00493 J00153							
hemoglobin, alpha 1 (non- exact, 76%) hemoglobin, alpha 1 (non-	1	V00493							
exact, 82%) hemoglobin, beta (HBB)	129	V00493	+	-	+	+	+	+	high in many libraries
•			T				T	_	ingit in many iloranes
hemoglobin, beta (HBB) (low match)		V00497							
hemoglobin, beta (HBB) (low match)	1	L48220 D10924							
hemokine (C-X-C motif), receptor 4 (fusin) (CXCR4) hemopoletic cell kinase	1	M16591	+	+	+	+		+	
(HCK)	5					<u> </u>			,
hepatitis C-associated microtubular aggregate protein p44	2	D28908							,
hepatoma-derived growth factor	1	D16431	+	+	+	+		+	
Hermansky-Pudlak syndrome (HPS)	2	U65676							
HERV-E integrase (non- exact 76%aa)	1	AF026246							
heterogeneous nuclear protein similar to rat helix destabilizing protein (FBRNP)	2	S63912		+	+	+		+	
heterogeneous nuclear ribonucleoprotein (C1/C2) (HNRPC)	4	M16342							
heterogeneous nuclear ribonucleoprotein A/B (HNRPAB)	1	M65028	+	+	+	+	+	+	

ribonucleoprotein A1 (HNRPA)   helierogeneous nuclear introduced protein D-like (HNRPA)   helierogeneous nuclear introduced protein D-like (HNRPA)   helierogeneous nuclear introduced protein D-like (HNRPA)   helierogeneous nuclear introduced protein D-like (HNRPA)   helierogeneous nuclear introduced protein D-like (HNRPA)   helierogeneous nuclear introduced protein P-like (HNRPA)   helierogeneous nuclear introduced protein H-like (HNRPA)   helieroge										
inbonucleoprotein A2/81 (HNRPA2B1) heterogeneous nuclear phonucleoprotein D (mRNP) Davis nuclear (HNRPDL) heterogeneous nuclear phonucleoprotein D (HNRPDL) heterogeneous nuclear phonucleoprotein F (HNRPDL) heterogeneous nuclear phonucleoprotein F (HNRPDL) heterogeneous nuclear phonucleoprotein F (HNRPP) (HNRPP) heterogeneous nuclear phonucleoprotein G (HNRPP) (HNRPP) heterogeneous nuclear phonucleoprotein H (HNRPP) (HPR-3) heterogeneous nuclear phonucleoprotein H (HNRPP) (HOR 3) heterogeneous nuclear phonucleoprotein H (HNRPP) (HOR 3) heterogeneous nuclear phonucleoprotein H (HNRPP) (HOR 3) heterogeneous nuclear phonucleoprotein H (HNRPP) (HOR 3) heterogeneous nuclear phonucleoprotein H (HNRPP) (HOR 3) heterogeneous nuclear phonucleoprotein H (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR) heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R (HNRPR)  heterogeneous nuclear phonucleoprotein R  (HNRPR)  heterogeneous nuclear phonucleoprotein R  (HNRPR)  heterogeneous nuclear phonucleoprotein R  (HNRPR)  heterogeneous nuclear phonucleoprotein R  H	heterogeneous nuclear ribonucleoprotein A1 (HNRPA1)	20	X12671	+	+	+	+	+	+	
Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Intercept   Inte	heterogeneous nuclear ribonucleoprotein A2/B1 (HNRPA2B1)	3	M29064	+	+	+	+	+	+	
ribonudeoprotein D-like (HNRPD). helerogeneous nuclear ribonudeoprotein F (HNRPD). helerogeneous nuclear ribonudeoprotein F Relative protein G (HNRPG). helerogeneous nuclear ribonudeoprotein G (HNRPG). helerogeneous nuclear ribonudeoprotein G (HNRPG). helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTP-3) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTP-3) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTP-3) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTR-3) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTR-3) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K  H  H  H  H  H  H  H  H  H  H  H  H  H	heterogeneous nuclear ribonucleoprotein D (hnRNP D)	2	D55673	+	+	+	+	+	+	
ribonudeoprotein F (HNRPF) (83%) helerogeneous nuclear inbonudeoprotein F (HNRPF) (83%) helerogeneous nuclear ribonudeoprotein G (HNRPG) helerogeneous nuclear ribonudeoprotein G (HNRPG) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTP-3) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTP-3) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTP-3) helerogeneous nuclear ribonudeoprotein H (HNRPH) (FTR-3) helerogeneous nuclear ribonudeoprotein H (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein K (HNRPK) helerogeneous nuclear ribonudeoprotein C (HNRPK) helerogeneous nuclear ribonudeoprotein C (HNRPK) helerogeneous nuclear ribonudeoprotein C (HNRPK) helerogeneous nuclear ribonudeoprotein C (HNRPK) helerogeneous nuclear ribonudeoprotein C (HNRPK) helerogeneous nuclear ribonudeoprotein C (scaffold attachment factor A) (HNRPM) helerogeneous nuclear ribonudeoprotein C (scaffold attachment factor A) (HNRPM) helerogeneous nuclear ribonudeoprotein C (scaffold attachment factor A) (HNRPM) helerogeneous nuclear ribonudeoprotein C (scaffold attachment factor A) (HNRPM) helerogeneous nuclear ribonudeoprotein C (scaffold attachment factor A) (HNRPM) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerogeneous nuclear ribonudeoprotein C (HNRPR) helerog	heterogeneous nuclear ribonucleoprotein D-like (HNRPDL)	5	D89092	+	+	+	+	+	+	
(HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)   (HNRPF) (a)	ribonucleoprotein F (HNRPF)	1	L28010	+	+	+	+		+	
(HNRPG)	heterogeneous nuclear ribonucleoprotein F (HNRPF) (83%)		L28010							
ribonucleoprotein H (HNRPH) (FIP-3) heterogeneous nuclear inbonucleoprotein H (HNRPH) (low match) heterogeneous nuclear inbonucleoprotein H1 (H) (HNRPH) (low match) heterogeneous nuclear inbonucleoprotein H1 (H) (HNRPH) (low match) heterogeneous nuclear inbonucleoprotein K (HNRPK) heterogeneous nuclear inbonucleoprotein K (HNRPK) heterogeneous nuclear inbonucleoprotein R (HNRPK) heterogeneous nuclear inbonucleoprotein R (HNRPK) heterogeneous nuclear inbonucleoprotein R (HNRPK) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous nuclear inbonucleoprotein R (HNRPW) heterogeneous	ribonucleoprotein G (HNRPG)	2			+	+	+		+	
(HNRPH)   (low match)   (HNRPH)   (low match)   (HNRPH)   (low match)   (HNRPH)   (low match)   (HNRPH)   (low match)   (low m	ribonucleoprotein H (HNRPH) (FTP-3)									
ribonucleoprotein H1 (H) (HNRPH1) heterogeneous nuclear ibonucleoprotein K (HNRPK) heterogeneous nuclear ibonucleoprotein R (HNRPR) heterogeneous nuclear ibonucleoprotein R (HNRPR) heterogeneous nuclear ibonucleoprotein U (scaffold attachment factor A) (HNRPU) hexokinase 1 (HK1) hexokinase 2 (HK2) hexokinase 3 (HK3)  hexokinase 3 (HK3)  hexokinase 3 (HK3)  hexosaminidase A (alpha polypeptide) (HEXA HGMPD/T gene for oldfactory receptor High density lipoprotein binding protein (HDLBP) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonexact 60%) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (nonhistone chromosomal) protein 1 (HMG2) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 1 (HMG3) (nonhistone chromosomal) protein 2 (HMG2) (nonhistone chromosomal) protein 2 (HMG2) (nonhistone chromosomal) protein 2 (HMG2) (nonhistone chromosomal) protein 2 (HMG2) (nonhistone chromosomal) (nonhistone chromosomal) (nonhistone chromosomal) (nonhistone chromosomal) (nonhistone chromosomal) (nonhistone chromosomal) (nonhistone chromosomal	ribonucleoprotein H (HNRPH) (low match)	•								
ribonucleoprotein K (HNRPK) heterogeneous nuclear ribonucleoprotein R (HNRPK) heterogeneous nuclear ribonucleoprotein R (HNRPR) heterogeneous nuclear ribonucleoprotein U (scaffold attachment factor A) (HNRPU) hexokinase 1 (HK1)	ribonucleoprotein H1 (H) (HNRPH1)	_		+	+	+	+		+	
ribonucleoprotein R (HNRPR) heterogeneous nuclear ribonucleoprotein U (scaffold attachment factor A) (HNRPU) hexokinase 1 (HK1)	ribonučleoprotein K (HNRPK)			+	+	+	+	+	+	
ribonucleoprotein U (scaffold attachment factor A) (HNRPU) hexokinase 1 (HK1)	ribonucleoprotein R (HNRPR)				+	+	+	+	+	
hexokinase 2 (HK2)	heterogeneous nuclear ribonucleoprotein U (scaffold attachment factor A) (HNRPU)	3	X65488	+	+	+	+	+	+	
hexokinase 3 (HK3)	hexokinase 1 (HK1)	2	X66957		+	+	+		+	
hexosaminidase A (alpha polypeptide) (HEXA HGMP07I gene for olfactory receptor	hexokinase 2 (HK2)	3	Z46376	+	+	+	+	-	+	
hexosaminidase A (alpha polypeptide) (HEXA HGMP07I gene for olfactory receptor	• •	2	U51333				├─			
polypeptide) (HEXA	, ,		1		-		<del></del>			<del></del>
olfactory receptor High density lipoprotein binding protein (HDLBP) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) high-mobility group (nonhistone chromosomal) protein 17 (HMG17) high-mobility group (nonhistone chromosomal) protein 17 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mistone chromosomal) protein isoforms I and Y high-risk humanpapilloma viruses E6 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	polypeptide) (HEXA	•			1					
High density lipoprotein binding protein (HDLBP)  hinding protein (HDLBP)  fingh-mobility group (nonhistone chromosomal) protein 1 (HMG1) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (non-exact 60%)  High-mobility group (nonhistone chromosomal) protein 17 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 3 (HMG2) high-mobility group (nonhistone chromosomal) protein 5 (HMG2) high-mobility group (nonhistone chromosomal) protein 5 (HMG2) high-mobility group (nonhistone chromosomal) protein 5 (HMG2) high-mobility group (nonhistone chromosomal) protein 1 (HMG2) high-mobility group (nonhistone chromosomal) protein 5 (HMG2) high-mobility group (nonhistone chromosomal) protein 5 (HMG2) high-mobility group (nonhistone chromosomal) protein 6 (HMG2) high-mobility group (nonhistone chromosomal) protein 1 (HMG17) high-mobility group (nonhistone chromosomal) protein 1 (HMG17) high-mobility group (nonhistone chromosomal) protein 1 (HMG17) high-mobility group (nonhistone chromosomal) protein 1 (HMG17) high-mobility group (nonhistone chromosomal) protein 1 (HMG17) high-mobility group (nonhistone chromosomal) protein 1 (HMG17) high-mobility group (nonhistone chromosomal) protein 1 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 3 (HMG18) high-mobility group (nonhistone chromosomal) protein 3 (HMG18) high-mobility group (nonhistone chromosomal) protein 5 (HMG18) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) hig		2	U76377							
binding protein (HDLBP) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) high-mobility group (nonhistone chromosomal) protein 17 (HMG17) high-mobility group (nonhistone chromosomal) protein 17 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 18 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 18 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 18 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 18 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 3 (HMG17) high-mobility group (nonhistone chromosomal) protein 19 (HMG17) high-mobility group (nonhistone chromosomal) protein 19 (HMG17) high-mobility group (nonhistone chromosomal) protein 19 (HMG17) high-mobility group (nonhistone chromosomal) protein 19 (HMG17) high-mobility group (nonhistone chromosomal) protein 19 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 3 (HMG17) high-mobility group (nonhistone chromosomal) protein 19 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 3 (HMG17) high-mobility group (nonhistone chromosomal) protein 5 (HMG17) high-mobility group (nonhistone chromosomal) protein 6 (HMG17) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high-mobility group (nonhistone chromosomal) high		2	M64098	+	+	+	+	+	+	
(nonhistone chromosomal) protein 1 (HMG1) (nonhistone chromosomal) protein 1 (HMG1) (non- exact 60%) High-mobility group (nonhistone chromosomal) protein 17 (HMG17) high-mobility group (nonhistone chromosomal) protein 17 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein isoforms I and Y high-risk humanpapilloma viruses E6 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	binding protein (HDLBP)						<u> </u>			
(nonhistone chromosomal) protein 1 (HMG1) (non- exact 60%) High-mobility group (nonhistone chromosomal) protein 17 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein isoforms I and Y high-risk humanpapilloma viruses E6 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	(nonhistone chromosomal)	_		+	+	+	+	+	+	
(nonhistone chromosomal) protein 17 (HMG17) high-mobility group (nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein isoforms I and Y high-risk humanpapilloma viruses E6 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	(nonhistone chromosomal) protein 1 (HMG1) (non- exact 60%)	1	D63874							
(nonhistone chromosomal) protein 2 (HMG2) high-mobility group (nonhistone chromosomal) protein isoforms I and Y high-risk humanpapilloma viruses E6 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	(nonhistone chromosomal) protein 17 (HMG17)	2	M12623	+	+	+	+		+	
high-mobility group 2 L17131 + + + + + + + + + + + + + + + + + +	high-mobility group (nonhistone chromosomal) protein 2 (HMG2)	2	M83665	+	+	+	+	+	+	
high-risk humanpapilloma 1 AF090990.1 viruses E6 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	high-mobility group (nonhistone chromosomal) protein isoforms I and Y	2	L17131	+	+	+		+	+	
highing common leaves and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	high-risk humanpapilloma viruses E6 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	1	AF090990.1							
histidine ammonia-lyase 1 D16626 +, only +	histidine ammonia-lyase (HAL)	1	D16626		+	+	, only	$\overline{}$		

histidyl-tRNA synthetase (HARS)	2	Z11518	+	T +	+	+	+	+	10
histocompatibility antigen (HLA-Cw3), class I	1	U31372						Г	
histone deacetylase 1 (HDAC)	4	U50079	+	+	+	+		+	
histone deacetylase 1 (HDAC1)	2	D50405	+	+	+	+		+	
histone deacetylase 5 (NY-CO-9)	1	AF039691		+	+	T		T	
HK2 gene for hexokinase II	1	Z46362	<del></del>	+-	<del>                                     </del>				
HL9 monocyte inhibitory receptor precursor	2	U91928				+			
HLA class I heavy chain (HLA-Cw*1701)	1			*			<del> </del> -		
HLA class Flocus C heavy chain	1	X58536							
HLA class II SB 4-beta chain	1	X03022		<del> </del>		<u> </u>			
HLA class III region containing NOTCH4 gene	1	U89335	+	+	+	+		+	
HLA-A	1	Z72423		+		<del>                                     </del>	-		
HLA-A	2	AJ006020	<del></del>	+-	<del>                                     </del>	$\vdash$	<del>                                     </del>	-	
HLA-A*7402	1	AJ223060		+-	<del>                                     </del>	├		-	<del> </del> -
HLA-A11 /	<del>                                     </del>	U02934	<u> </u>	+	-	├	<del>                                     </del>	$\vdash$	
HLA-B	2	X75953		+	<del> </del>	┼—	<u> </u>	<u> </u>	
HLA-B	1	X83401		<del> </del>	<u> </u>		_	<del>                                     </del>	
HLA-B	1	X78426		<del></del>	<u> </u>	Ь			
HLA-B associated		Z37166	+	<del> </del>	-	<del>  -</del>	+	ļ.,	
transcript-1 (D6S81E)	2	M33509	+	+	+	+	_	+	
transcript-2 (D6S51E)	4	M33509	*			Ļ			·
1	119			4	<u> </u>	Ļ	<u> </u>	<u> </u>	
HLA-Bw72 antigen HLA-C gene (HLA-	119	L09736 D83957	+	+	+	+	+	+	high in many libraries
Cw*0701 allele)				<u> </u>	<u> </u>				
HLA-Cw*0701					ı	I		1	. 1
LU A CONTORNA	9	Z46810		<u> </u>					
HLA-Cw*0801	1	D64151							
HLA-Cw*1203	1	D64151 D64146				_			
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160)	1 1 2	D64151 D64146 X00370							
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain	1 2	D64151 D64146 X00370 M60333	+	+	+	+	+	+	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F)	1 1 2 17 3	D64151 D64146 X00370 M60333 X17093	+	+	+	+	+	+	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1	1 2	D64151 D64146 X00370 M60333 X17093 AF019214	+	+			+	L	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845)	1 1 2 17 3 3	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1	+	+			+	L	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33	1 1 2 17 3 3 1 3	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155	+	+			+	L	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1	1 1 2 17 3 3	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1	+	+			+	L	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S.	1 1 2 17 3 3 1 3	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155			+	+	+	+	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1 (HRMT1L1) hnRNP C1/C2 homeobox (=X58250)	1 1 2 17 3 3 1 3 2	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155 U80213			+	+	+	+	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1 (HRMT1L1) hnRNP C1/C2	1 1 2 17 3 3 1 3 2	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155 U80213			+	+	+	+	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1 (HRMT1L1) hnRNP C1/C2 homeobox (=X58250 Mouse homeo box protein, put. transcription factor involved in embryogenesis and hematopoiesis) homeobox protein (HLX1) (=M60721)	1 1 2 17 3 3 1 3 2	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155 U80213			+	+	+	+	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1 (HRMT1L1) hnRNP C1/C2 homeobox (=X58250 Mouse homeo box protein, put. transcription factor involved in embryogenesis and hematopoiesis) homeobox protein (HLX1) (=M60721) homeodomain-interacting protein kinase 3 (HIPK3)	1 1 2 17 3 3 1 3 2	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155 U80213 D28382 M60721			+	+	+	+	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1 (HRMT1L1) hnRNP C1/C2 homeobox (=X58250 Mouse homeo box protein, put. transcription factor involved in embryogenesis and hematopoiesis) homeobox protein (HLX1) (=M60721)	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155 U80213 D28382 M60721 U14326	+		+	+	+	+ +	high in spleen
HLA-Cw*1203 HLA-DC classII histocompatibility antigens alpha-chain (=K01160) HLA-DR alpha-chain HLA-F (leukocyte antigen F) HMG box containing protein 1 hMLH1 (=U83845) Hmob33 HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1 (HRMT1L1) hnRNP C1/C2 homeobox (=X58250 Mouse homeo box protein, put. transcription factor involved in embryogenesis and hematopoiesis) homeobox protein (HLX1) (=M60721) homeodomain-interacting protein kinase 3 (HIPK3) homolog of Drosophila past	1 1 2 17 3 3 1 3 2 2 1 1 1 1 1 1	D64151 D64146 X00370 M60333 X17093 AF019214 AB017806.1 Y14155 U80213 D28382 M60721 U14326 AF004849	+	+	+	+	+	+	high in spleen

AB015344								_			
HRX-like protein (eAPT-014)	HPV16 E1 protein binding protein		U96131		+	+			+	_ ^	
(=AF010403 ALR)					+	+			+		
shock Cognate protein HSPC012	(=AF010403 ALR)										
HSPC021	shock cognate protein		Y00371								
HSPEXT3p		1	AF077036.1								_
Name		1	AF077207.1						<b>†</b>	<del></del>	
HU-K4 1 U80644	· ·	1	U71374				1		†	<del> </del>	
Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   Number   N	htra2-beta-2	1	U87836	+	+	+	+		+		_
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inuflingin-interacting protein HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable HYPA/FBP11 (HYPA) Interpretable	hunc18b2	1	U63533		+	+	+		+	ļ ————————————————————————————————————	_
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dehydrogenase 1 (HSD17B1)	hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl- Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit (HADHB)	1		+	+	+	+		+		
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(CIT987SK 2A8 1 chromosome 8)	(ÁĹ008729) (dJ257A7.2)	1									
hypothetical protein (clone 24840) hypothetical protein (clone 1 270222   hypothetical protein   1	hypothetical protein (CIT987SK_2A8_1 chromosome 8)	1	U96629								
CRFp507G2490).   hypothetical protein   1	hypothetical protein (clone 24640)	1	AF055004								
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(dJ487J7.1.1) hypothetical protein (dJ753P9.2)  (dJ753P9.2)  (hypothetical protein (DKFZp586i1111)  hypothetical protein (J257A7.2) hypothetical protein (KIAA0440) (=AF026504 R.norvegicus SPA-1 like protein) hypothetical protein (L1H 3' region)	hypothetical protein (dJ465N24.1 similar to predicted yeast and worm proteins)	2	AL031432								
(dJ753P9.2) hypothetical protein	(dJ487J7.1.1)	2	AL008730								٦
(DKFZp586l111) hypothetical protein (J257A7.2) hypothetical protein (KIAA0440) (=AF026504 R.norvegicus SPA-1 like protein) hypothetical protein (L1H 3' 1 region)	(dJ753P9.2)	2	AL023653								
hypothetical protein 1 AL008729 (J257A7.2) 1 AB007900 (KIAA0440) (=AF026504 R.norvegicus SPA-1 like protein (L1H 3' 1 region)	hypothetical protein (DKFZp5861111)	1	AL050131.1	*							┨
hypothetical protein 1 AB007900 (KIAA0440) (=AF026504 R.norvegicus SPA-1 like protein) hypothetical protein (L1H 3' region)	hypothetical protein (J257A7.2)	1	AL008729					.			ᅱ
region)	hypothetical protein (KIAA0440) (=AF026504 R.norvegicus SPA-1 like protein)	1	AB007900								
hypothetical protein (S184) 1 P49756	hypothetical protein (L1H 3' region)	·								······································	٦
	hypothetical protein (S164)	1	P49756								

hypothetical protein (similar to thrombospondin) (non- exact 56%)	1	AF109907							3.
hypothetical protein 3	1 ·			+					
hypothetical protein B		U47926		+		$\vdash$	-	$\vdash$	
(HSU47926) (non-exact, 56%)									
hypothetical protein from BCRA2 region (CG005)	3	U50532	+	+	+	+		+	
hypoxia-inducible factor 1, alpha subunit (basic helix- loop-helix transcription factor) (HIF1A)	1	AF050115							
la-associated invariant gamma-chain (clones lambda-y (1,2,3))	1	M13555							
iduronate 2-sulfatase	2	M58342	+	+	+	+		+	****
(Hunter syndrome) (IDS)	1	L20779							
(=D11016) Ig heavy chain variable	2	M34024			_			<u> </u>	
region Ig heavy chain variable	<u>1</u>	Z75378		ļ			Ĺ		
region (VH4DJ) (clone T14.4)	•								
lg heavy chain variable region (VH4DJ) (clone T22.18)	1	275392							
lg J chain	7	M12378		1			<b></b>	<del>                                     </del>	
lg kappa	1	S49007		+			-		
IG kappa light chain	1	X63398							
variable region A20 Ig kappa light chain, V- and J-region (=X59315)	1	D90158							
Ig lambda light chain variable region (26- 34ITIIF120)	1	Z85052							
Ig mu-chain VDJ4-region	1	M16949	<u></u>				-		
Ig rearranged anti-myelin kappa-chain (V-J4-region, hybridoma AE6-5)	1	M29469							
lg rearranged H-chain mRNA V-region	2	M97920							
lg rearranged light-chain V region (=D90158)	1	M74020							
IGF-II mRNA-binding protein 3 (KOC1) (non-	1	U97188	+	+	+				
lgG Fc binding protein	1	D84239	+	+		+		+	
(FC(GAMMA)BP) IgG heavy chain variable	1	M83136							
region (vH26) IgM heavy chain (C mu,	1	X14939	•	1					
membrane exons) IkB kinase-beta (IKK-beta)	- 1	AF029684		1		-	$\vdash$		
IL-1 receptor type II	<del></del>	U14177		-			-	_	
IL2-inducible T-cell kinase (ITK)	2	S65186							
immediate early protein (ETR101)	1	M62831	+		+	+		+	
immunogloblin light chain (lambda)	1	D87018							
Immunoglobulin (CD79A) binding protein 1 (IGBP1)	1	Y08915	В, Т	+	+		+		
immunoglobulin C (mu) and C (delta) heavy chain (=K02878)	2	X57331							
immunoglobulin G Fc receptor IIIB	1	Z46223							
immunoglobulin gamma 3 (Gm marker) (IGHG3)	3	Y14737	+			+		+	high in many libraries

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immunoglobulin gamma heavy chain variable region (=X61011)	1	Z66542							:-
immunoglobulin heavy chain (VI-3B)	1	X62109							
immunoglobulin heavy chain J region	1	X86356							
immunoglobulin heavy chain J region, B1	2	X86355							
haplotype immunoglobulin heavy chain variable region (IGH)	1	AF062126							
(clone 21u-48) immunoglobulin heavy chain variable region (IGH)	1	AF062212							
(clone 23u-1) immunoglobulin heavy chain variable region V1-18	2	M99641							
(IGHV@) (=X60503) immunoglobulin heavy chain variable region V3-43	2	M99672				·		_	
(IGHV@) immunoglobulin heavy	3	M99649							
chain variable region V3-7 (IGHV@) immunoglobulin IgH heavy	1	U07986						_	
chain Fd fragment		X58081							
chain immunoglobulin kappa light		X12686							
chain V-segment A27 immunoglobulin light chain	1	D86990							
immunoglobulin light chain (low match)	1	D86996							
immunoglobulin light chain variable region (lambda IIIb subgroup) from IgM rheumatoid factor	1	L29157							
immunoglobulin M heavy chain V region=anti-lipid A antibody	1	\$50735							
immunoglobulin mu (IGHM)	9	X57086	+	+		+		+	
immunoglobulin mu binding protein 2 (IGHMBP2)	1	L24544		+			+		
immunoglobulin superfamily, member 2 (IGSF2)	1	Z33642							
immunoglobulin VH mRNA (487 bp) (=M99652 immunoglobulin heavy chain variable region V3-11 ((GHV@))	1	X61013							
imogen 38 (IMOGEN38)	1	Z68747		+	+	+		+	
IMP (inosine monophosphate) dehydrogenase 1	1	J05272	+	+	+	+			
(IMPDH1) IMP (inosine monophosphate)	2	L39210	+	+	+	+	_	+	
dehydrogenase 2 (IMPDH2)									
inc finger protein 151 (pHZ-67) (ZNF151)		Y09723	+	+	+	+		+	
inc finger protein, C2H2, rapidly turned over (ZNF20)		AF011573		+	+				
inducible poly(A)-binding protein (IPABP)	1	U33818	+	+	+	+		+	
inducible poly(A)-binding protein (IPABP) (low match)	1	U33818							

inducible protein (Hs.80313)	2	L47738	+	+	+	+		+	:•
inhibitor of DNA binding 2, dominant negative helix- loop-helix protein (ID2)	4	M97796	+	+	+	+	+	+	
inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase complex-	2	AF044195							
lassociated protein (IKBKAP) inositol 1,3,4-trisphosphate		U51336			+		+	+	
5/6-kinase inositol 1.4.5 trisphosphate			+	+		+		Ť	
receptor type 1 (ITPR1)	1	U23850			+	+			
inositol 1,4,5-trisphosphate 3-kinase B (ITPKB)	2	X57206	В	+	+		+		
inositol monophosphatase	1	538980							
inositol polyphosphate-5- phosphatase, 145kD (INPP5D)	2	U84400	+	+	+	+		+	
Ins(1,3,4,5)P4-binding protein	1	X89399		+				+	
insulin-like growth factor 2 receptor (IGF2R)	5	Y00285	+	+	+	+		+	
integral membrane protein 1 (ITM1)	1	L38961			+	+		+	
integral membrane protein 2C (ITM2C)	1	AF038953			+		+	+	·
integral membrane protein Tmp21-I (p23)	3	U61734	+	+	+	+	+	+	
integrin beta 4 binding protein (ITGB4BP)	2	AF047433			+			+	
integrin, alpha 2b (platelet glycoprotein IIb of IIb/IIIa complex, antigen CD41B) (ITGA2B)	3	M34480		+			+		
integrin, alpha 5 (fibronectin receptor, alpha polypeptide) (ITGA5)	4	X06256	+	+	+		+	+	
integrin, alpha L (antigen CD11A (p180), lymphocyte function-associated antigen 1; alpha polypeptide) ((ITGAL)	6	Y00796							
integrin, alpha M (complement componentreceptor 3, alpha; also known as (CD11b (p170), macrophage antigen alpha polypeptide) (ITGAM)		M18044							
integrin, alpha X (antigen CD11C (p150), alpha polypeptide) (ITGAX)	1	M81695	+	+				+	
integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2 MSK12) (ITGB1)	2	X07979							
integrin, beta 2 (antigen CD18 (p95), lymphocyte function-associated antigen 1; macrophage antigen 1 (mac-1) beta subunit) (ITGB2)	32	M15395	+ **	+		+		+	
integrin, beta 7 (ITGB7)	1	M68892	+						
Integrin-linked kinase (ILK)	1	U40282	+	+	+	+		+	
intercellular adhesion molecule 1 (CD54), human rhinovirus receptor (ICAM1)	1	J03132	+			+	+	+	
intercellular adhesion molecule 2 (ICAM2)	1	X15606	+	+	+	+		+	

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intercellular adhesion molecule 3 (ICAM3)	6	X69819	+					+	
intercellular adhesion molecule 4. Landsteiner-	1.	L27670						+	
Wiener blood group (ICAM4)									
Interferon consensus sequence binding protein 1 ((CSBP1)	ſ	M91196	~W, 1	lymp	homa				
Interferon consensus sequence binding protein 1	1	M91196							
(ICSBP1) (low match) interferon regulatory factor 2 (IRF2)	4	X15949	+	+	+	+			
interferon regulatory factor1 (IRF1)	4	L05072	+	+	+	+		+	
interferon regulatory factor5 (IRF5)	1	U51127	+	+		+			
interferon, gamma- inducible protein 16 (IFI16)	2	M63838	+	+	+	+		+	
interferon, gamma- inducible protein 30 (IFI30)	9	J03909	+	+		+		+	
INTERFERON-INDUCED GUANYLATE-BINDING PROTEIN 1 (GUANINE NUCLEOTIDE-BINDING PROTEIN 1) (non-exact 62%)	1	P32455							
interferon-induced protein 17 (IFI17)	3	X84958		+	+	+		+	
interferon-induced protein 54 (IFI54)	5	M14660							
Interferon-inducible (1-8D)	5	X57351 X57352			+	_	+	+	
interferon-inducible (1-8U)	5	Y10313		+	+	<u> </u>	+	+	
developmental regulator 1 (IFRD1)	_							į _	
interferon-stimulated transcription factor 3, gamma (48kD) (ISGF3G)	2	M87503		+		+		+	·
interleukin 1 receptor, type II (IL1R2)	1	U64094				+			
Interleukin 10 receptor, beta (I.10RB)	1	U08988	Tactivate	ed 	+			+	
interleukin 12 receptor, beta 1 (IL12RB1)	2	U03187	+	ļ	+		_	<u> </u>	only found in T cell
interleukin 13 receptor, alpha 1 (IL13RA1)	2	Y09328		+	*	+	+	+	
interleukin 16 (lymphocyte chemoattractant factor) (IL16)	6	U82972		•					
interleukin 18 receptor 1 (IL18R1)	1	U43672							
interleukin 2 receptor, beta (IL2RB)	9	M26062							
interleukin 2 receptor, gamma (severe combined immunodeficiency) (IL2RG)	6	D11086	+		+			+	
interleukin 4 receptor (IL4R)	3	X52425	+	+		+		+	
interleukin 6 receptor (IL6R)	5	X12830		+			·	+	
interleukin 6 signal transducer (gp130, oncostatin M receptor) (IL6ST)	-1	M57230							
interleukin 7 receptor (IL7R)	14	M29696	+ .					+	
Interleukin 7 receptor (IL7R) (low match)	1	AF043123							
interleukin 8 (IL8)	8	Y00787	+		+		+		High in activated T cells, bone and pancreatic islets
<del></del>			5						<del></del>

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interleukin 8 receptor alpha (IL8RA)	11	L19591							
interleukin 8 receptor, beta (IL8RB)	14	M94582							
interleukin enhancer binding factor 2, 45kD (ILF2)	3	U10323	+	+	+	+	+	+	high in uterus
interleukin enhancer binding factor 3, 90kD (ILF3)	2	010324							
interleukin-1 receptor- associated kinase 1 (IRAK1)	2	L76191		+	+	+		+	
interleukin-1 receptor- associated kinase 1 (low match)	1	U52112							
interleukin-10 receptor, alpha (IL10RA)	5	U00672	+	+	+	+			
interleukin-11 receptor, alpha (IL11RA)	7	Z38102		+	+				
INTERLEUKIN-14 PRECURSOR (IL-14) (HIGH MOLECULAR WEIGHT B-CELL GROWTH FACTOR) (HMW-BCGF) (non-exact 46%)	1	P40222							
intestinal carboxylesterase; liver carboxylesterase-2 (ICE)	1	U60553		+			+		
inversin protein (non-exact 52%)	1	AF084367							
IQ motif containing GTPase activating protein 1 (IQGAP1)	6	L33075							
IQ motif containing GTPase activating protein 2 (IQGAP2)	1	U51903		+		+			
isocitrate dehydrogenase 1 (NADP+), soluble (IDH1)	1	AF020038	+	+	+	+	+	+	
isocitrate dehydrogenase 2 (NADP+), mitochondrial (IDH2)	2	X69433	+	+	+	+	+	+	
isocitrate dehydrogenase 3 (NAD+) alpha (IDH3A)	2	U07681			+				
isocitrate dehydrogenase 3 (NAD+) gamma (IDH3G)	1	Z68907	+	+	+	+		+	
isolate Aus3 cytochrome b (CYTB)	1	AF042516							
isolate TzCCR5-179 CCR5 receptor (CCR5)	1	AF011524							·
isopentenyl-diphosphate delta isomerase (IDI1)	5	X17025	+	+	+	+		+	
Janus kinase 1 (à protein tyrosine kinase) (JAK1)	4	M64174	+	+	+	+		+	
Janus kinase 2 (a protein tyrosine kinase) (JAK2)	1	AF005216	···						
Jk-recombination signal binding protein (RBPJK)	2	L07876 .							
JM1 protein	1	AJ005890	····	+		+			
jumonji (mouse) homolog (JMJ)	1	U57592		+	+	+		+	
jun D proto-oncogene (JUND)	1	X51346	+	+	+	+		+	
jun dimenzation protein	1	AF111167		$\top$	-				only found in germ
junction plakoglobin (JUP)	1	M23410		+	+	+		+	
1							L	L	

WG 00/40/49									
kangai 1 (suppression of tumorigenicity 6, prostate; CD82 antigen (R2 leukocyte antigen, antigen detected by monoclonal and antibody	1	U20770	+	+	+	+	+	+	
IA4)) (KAI1) karyophenn (importin) beta	2	L39793	+	+	+	+	+	+	
1 (KPNB1) karyopherin (importin) beta	1	U72395	+	+	+	+			
2 (KPNB2) karyopherin alpha 1	1	S75295	+	+	+		+		
(importin alpha 5) (KPNA1) karyophenn alpha 2 (RAG		U09559							
cohort 1, importin alpha 1) (DPNA2)									
karyopherin alpha 3 (importin alpha 4) (KPNA3)	1	D89618		+			+		
karyopherin alpha 4 (KPNA4)	1	M17887		+	+				
Katanin (80 kDa) (KAT)	1	AF052432		+	+	+		+	
KE03 protein	2	AF064604							
Kelch-like ECH-associated protein 1 (KIAA0132) (66%aa)	1	D50922							
Keratin 8 (KRT8)	1	X74929		+	+	+	+	+	
ketohexokinase (fructokinase) (KHK)	1	X78678		+		+	+		
KIAA0001 (KIAA0001) (72% aa)	1	Q15391							
KIAA0001 (KIAA0001) (76% aa)	1	Q15391							
KIAA0001 (KIAA0001) (non-exact 72%)	1	Q15391							
KIAA0002 (KIAA0002)	5	D13627		+	+	+		+	
KIAA0005 (KIAA0005)	4	D13630		+	+	+		+	
KIAA0010 (KIAA0010)	1	D13635		+				+	
KIAA0016 (KIAA0016)	1	D13641	+	+	+	+		+	
KIAA0017 (KIAA0017)	2	D87686							
KIAA0022 (KIAA0022)	2	D14664		+	+	+			
KIAA0023 (KIAA0023)	1	D14689		+					
KIAA0024 (KIAA0024)	1	D14694	+	+	+	+		+	
KIAA0025 (KIAA0025)	1	D14695		+	+	+	+	+	
KIAA0026 (KIAA0026)	2	D14812		+	+	+		+	
KIAA0027	1	D25217		+					
KIAA0032 (KIAA0032)	2	D25215		+	+	+			
KIAA0040 (KIAA0040)	1	D25539	+	+	+	+		+	
KIAA0050 (KIAA0050)	4	D26069							
KIAA0053 (KIAA0053)	17	D29642	+		+	+			
KIAA0057 (KIAA0057)	1	D31762	+	+	+	+	+	+	high in fetal lung
KIAA0058 (KIAA0058)	11	D31767	+		+	+		+	
KIAA0063 (KIAA0063)	3	D31884	+	+	+	+		+	
KIAA0064 (KIAA0064)	1	D31764	+	+	+	+		+	
KIAA0066	1	D31886	+	+	+	+		+	
KIAA0068	1	D38549	<u> </u>	+	+	+	+	+	
KIAA0073	3	D38552		+	+	+		+	
KIAA0081	2	D42039		+		+		+	
KIAA0084	2	D42043	+	+	+	+		+	
KIAA0085	26	U30498	+	+	+	+	+	+	
KIAA0088	3	D42041	+	+	+	+	+	+	
KIAA0090	2	D42044	+	+	+	+	+	+	
KIAA0092 (KIAA0092)	1	D42054		+	+	+		+	
<del></del>	<del></del>	<del></del>	<del></del>						

KIAA0094	3	D42084			+	+			r,
KIAA0094 KIAA0095 (KIAA0095)	<u> </u>	D42085		<del>  </del>		<u> </u>			
KIAA0095 (KIAA0095)	1	D42085	+	+	+	+		+	
	*	X92474	<del></del>	+	+	Ľ	+	<u> </u>	
KIAA0097 (KIAA0097)	1		<del>'</del>	+	+	+	+	+	
KIAA0099 (KIAA0099)	3	D43951							
KIAA0102 (KIAA0102)	2	D14658		+		+	+	+	
KIAA0105	1	D14661	В	+			+	+	
KIAA0120	2	P37802		<u> </u>			<u> </u>		
KIAA0120 (non-exact, 65%)	1	M83106		+	+	+	_	+	
KIAA0121 (KIAA0121)	1	D50911	+		L				
KIAA0123	1	D21064		+	+	+		+	<del>_</del>
KIAA0128	1	D50918	+	+	+	+		+	
KIAA0129 (KIAA0129)	1	D50919	+	+	+	+	<u> </u>		
KIAA0130 (KIAA0130)	1	AF055995		+	+	+			
KIAA0136	2	D50926							
KIAA0137 (KIAA0137)	1	AB004885		+	+	+		+	
KIAA0140 (KIAA0140)	7	D50930	+	+		+		+	
KIAA0141 (KIAA0141)	3	D50931							
KIAA0144 (KIAA0144)	3	D63478	+	+	+	+	1	+	
KIAA0144 (KIAA0144) (low match)		D63478							
KIAA0144 (non-exact 61%)	1	Q14157						1	
KIAA0144 (non-exact 65%)	1	Q14157					Ì		
KIAA0146	2	D63480		+	+	+		+	
KIAA0148 (KIAA0148)	7	D63482		+			1	+	
KIAA0154	2	D63876	+	+	+	+	1	+	
KIAA0156		D63879		+-	+	+		+	
KIAA0160	2	D63881		<del> </del>	<del>                                     </del>	1	1	<del>                                     </del>	
KIAA0161 (KIAA0161)	1	D79983	+	+	-	+	1-		
KIAA0164 (KIAA0164)	3	D79986	· · · · · · · · · · · · · · · · · · ·	+	1-	╁	<del>                                     </del>	<del> </del>	
KIAA0167 (KIAA0167)	1	D79989		+	-	+-		-	
KIAA0168 (KIAA0168)	3	D79990		++	+	+	<del> </del>	+	
KIAA0169	3	D79991		+-	-	-	-	+	<del></del>
KIAA0171 (KIAA0171)	3	D79993		++	+	+	├	+	
KIAA0174 (KIAA0174)	7	D79996	+	++	+	+	├	+	
KIAA0179	2	D80001		+	+	+	┼	++	
KIAA0181	1	D80003		+	+	+		+	
KIAA0183	4	D80005	+	+	+	+	+	+	
KIAA0184		D80005	+	+	+	+	<del>                                     </del>	+	
	<del>'</del>	20000	T	<del>  '</del> -	<del>  `</del>	╀-	╁	Ļ	ļ
KIAA0191 (72% aa)	· ·	D83776		ļ		↓	↓	├	
KIAA0191 (non-exact 77%)	1			+	+	+	₩	+	
KIAA0193 (KIAA0193)	1	D83777	+	_1			↓		
KIAA0200 (KIAA0200)	1	D83785		+	+	+	1_	+	
KIAA0210 (KIAA0210)	3	D86965		<u> </u>	<u> </u>	1.	<u> </u>	<del> </del>	
KIAA0217	2	D86971	+	+	+	+	<u> </u>	+	
KIAA0219	2	077700		+	+	+		+	
KIAA0222 (KIAA0222)	1	D86975							
KIAA0223	2	D86976							
KIAA0229	1	D86982	+	+					
KIAA0232 (KIAA0232)	1	D86985		+	+	+		+	
KIAA0233 (KIAA0233)	1	D87071		1		$\top$	1		
KIAA0235	2	D87078	+	+	+	+	Т	1	
KIAA0239	1	D87076	+	+	+-		1	1	

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KIAA0239 (non-exact 80%)		D87076							r.
KIAA0240	1	D87077							
KIAA0242	4 .	D87684	+	+	+	+	+	+	
KIAA0248	2	D87435		+	+	+		+	
KIAA0249 (KIAA0249)	3	D87436	+	+	+	+		+	
KIAA0253	5	D87442	+	+	+	+	+	+	
KIAA0254 (KIAA0254)	1	D87443		+	+	+			
KIAA0255(KIAA0255)	4	D87444		+	+	+		+	
KIAA0262 (KIAA0262)	3	D87451	+	+	+	+		+	
KIAA0263 (KIAA0263)	1	D87452	+	+	+	+		+	
KIAA0264	3	D87453		+	+	+	<del></del>	+	
KIAA0268	1	D87742	+	+		+		+	
KIAA0269	1	Q92558							
KIAA0275 (KIAA0275)	13	D87465	+	+		+		+	
KIAA0304 (KIAA0304)	2	AB002302	+	+	+	+	+	+	
KIAA0308	2	AB002306		+	+		_	+	
KIAA0310 (KIAA0310)	1	AB002308		+	+	+	<u> </u>	+	
KIAA0314 (=U96635 M.musculus ubiquitin protein ligase Nedd-4)	3	AB002312							
KIAA0315 (KIAA0315)	4	AB002313		+	+	+	+	+	
KIAA0325 (=L08505 R.norvegicus cytoplasmic dynein heavy chain (MAP 1C))	2	AB002323							
KIAA0329 (KIAA0329)	1	AB002327		+	+	+		+	
KIAA0330	1	AB002328	+	+	+			+	
KIAA0332	1	AB002330		+	+	+		+	
KIAA0333	2	AB002331		+	+	+	+	+	
KIAA0336 (KIAA0336)	3	AB002334	+	+	+	+		+	
KIAA0336 (KIAA0336) (low match)	1	AB002334							
KIAA0342 (KIAA0342)	1	AB002340		+	+			+	
KIAA0344 (KIAA0344)	2	AB002342				+		+	
KIAA0354 (KIAA0354)	1	AB002352	+	+	+	+		+	
KIAA0365 (KIAA0365)	3	AB002363	+	+	+	+	+	+	
KIAA0370	6	AB002368		+	+	+	+	+	
KIAA0372 (KIAA0372)	1	AB002370							
KIAA0373 (KIAA0373)		AB002371		+		+			
KIAA0375 (KIAA0375)	1	AB002373		+		+			
KIAA0377 (KIAA0377)	1	AB002375		+		+	+		
KIAA0379	1	AB002377				+			
KIAA0379 (non-exact, 65%)	1	AB002377							
KIAÁ0380 (KIAA0380)	1	AB002378	+	+		+		+	
KIAA0380 (KIAA0380) (60%aa)	1	AB002378							
KIAA0382 (KIAA0382)	2	AB002380		+	+	+		+	
KIAA0383	1	AB002381							
KIAA0386 (KIAA0386)	5	AB002384							
KIAA0392	1	AB002390							
KIAA0397 (KIAA0397)	4	AB007857		+	+	+	+	+	
KIAA0403	3	AB007863							
KIAA0404	1	AB007864		+		+			
KIAA0409	1	AB007869		+		+			
KIAA0421	1	AB007881	+	+	+			+	
KIAA0424 (non-exact 82%)	<u>i</u>	AB007884							

KIAA0428 (KIAA0428)	9	Y13829		T	Ι	Τ	Τ_	Т	1.
KIAA0429 (KIAA0429)	2	AB007889	+	+	+	+	┼	+	
KIAA0430 (KIAA0430)	1 2	AB007890	<del> </del>	┼	<del> </del>	-	$\vdash$	$\vdash$	only in ovary
KIAA0432 (KIAA0432)	2	U86753	<del>                                     </del>	++	+	├	+	╁	
KIAA0435 (KIAA0435)	<del> </del>	AB007895		┼	<del>                                     </del>	╁	┼	╁	
KIAA0438 (KIAA0438)	1-1-	AB007898		++	+	+	+	+	
KIAA0447 (KIAA0447)	3	AB007916	+	+	+	+	╁	+	<del> </del>
KIAA0449	1	AB007918		+	├	-	┼	+	<del> </del>
KIAA0456	1	AB007925		+	+	+	┼-	+	<u> </u>
KIAA0458 (KIAA0458)		AB007927	ļ	-	<del> </del>	<u> </u>	<del>-</del>	╁	<u> </u>
KIAA0462	1 1	AB007931	+	+	+	+	├	+	
KIAA0465	1	AB007934	<u> </u>	+-	+	+	+	+	
KIAA0476 (KIAA0476)	1 -	AB007945		+	+	+	-	<del>                                     </del>	
KIAA0489	1	AB007958		+	<u> </u>	<u> </u>	┡	<b>├</b> ─	
KIAA0494 (KIAA0494)	<del>                                     </del>	AB007963	<del> </del>	+	+	+	<del> </del>	+	
KIAA0515	1 1	AB011087	+	<u>'</u>	+	+	—	+	
KIAA0521	3	AB011093	+	+	<u> </u>	T	<del> </del>	+	
KIAA0525	1 1	AB011097	ļ <u> </u>	++		+	↓	<u> </u>	
KIAA0530	1 1	AB011102			<u></u>		<u> </u>	<u> </u>	
KIAA0532	<del>                                     </del>	AB011102	+	+	+	+	ļ	ļ.,	
KIAA0537 (KIAA0537)	<del>                                     </del>	1	+	+	+	+	<u> </u>	+	
KIAA0540	.1	AB011109		<u> </u>	<u> </u>	<u></u>	<u> </u>	L.	
KIAA0543	1	AB011112	+	+	+	+		+	
	1	AB011115			+	+	<u> </u>	+	
KIAA0544		AB011116		+	+	+	_	+	
KIAA0549	2	AB011121		+	+	+		+	
KIAA0551	2	AB011123		+				+	
KIAA0554	8	AB011126		+	+	+		+	
KIAA0561	1	AB011133		+		+			
KIAA0562 (KIAA0562)		AB011134							
KIAA0563 (KIAA0563)	1	AB011135					Γ		
KIAA0569 (KIAA0569)	2	AB011141		+	+	+		+	
KIAA0571 (KIAA0571)	2	AB011143		+	+	+			
KIAA0573	1	AB011145		+		+		+	
KIAA0576	1	AB011148					Ī		
KIAA0580	1	AB011152	-						
KIAA0584	1	AB011156		+					
KIAA0592	3	AB011164	+	+	+	+		+	
KIAA0596	1	AB011168		+	+				
KIAA0598 (KIAA0598)	1	AB011170		+	+	+			
KIAA0608	1	AB011180			+	+			
KIAA0614	2	AB014514	+	+	+	+		+	
KIAA0615 (KIAA0615)	1	AB014515	<del></del>		-	_			
KIAA0621	1	AB014521	<del></del>	+	+		$\vdash$	+	
KIAA0648	1	AB014548		+	+	+	$\vdash$	+	
KIAA0652 (KIAA0652)	1	AB014552	+	+	+	+	$\vdash$	+	
KIAA0668	1	AB014568					$\vdash$		
KIAA0669	1	AB014569					-	$\vdash \vdash$	
KIAA0671 (KIAA0671)	1	AB014571		<b></b>	+	+		+	
KIAA0675 (KIAA0675)	1	AB014575		+		+	+	-	
KIAA0676	1	AB014576	<del> </del>	+	+	+	—	+	
KIAA0677 (KIAA0677)	2	AB014577		+	+	+	+	+	
KIAA0678	1	AB014578	+	+	+	+		+	
KIAA0679	6	AB014579		+	+	+		+	
	1			لسسل			<u> </u>	لـنــا	

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KIAA0680 (KIAA0680)		AB014580						$\prod$	:,
KIAA0692	1	AB014592	+	+	+	+		+	
KIAA0697	1.	AB014597							
KIAA0699	1	AB014599	+	+	+	+		+	
KIAA0700	1	AB014600		+	+	+		+	
KIAA0737 (KIAA0737)	3	AF014837	+	+	+	+		+	
KIAA0748 (KIAA0748)	2	AB018291		+					<u> </u>
KIAA0763 (KIAA0763)	2	AB018306	+	+	+	+		+	
KIAA0769 (KIAA0769)	2	AB018312		+	+	+		+	
KIAA0782	1	AB018325	+	+		+		1	high in BPH stroma
KIAA0796	1	AB018339		+	+	+	$\vdash$	+	
KIAA0798 (KIAA0798)	1	AB018341		_	<del></del>	<del>                                     </del>	_	$\vdash$	
KIAA0823	1	AB020630		1	<del>                                     </del>	<del> </del>		$\vdash$	
KIAA0854	7	AB020661	+	+	+	+		+	
KIAA0856	1 -	AB020663	<del></del>	+	+	+	├	+	
KIAA0860	-1	AB020667		+		+	├	╁	
KIAA0862	1	AF054828		+	+	+	-		<del></del>
KIAA0871 (non-exact 88%)	1	AB020678	<del> </del>	+	<u> </u>	<del>Í</del>	$\vdash$		<del> </del>
KIAA0873	1	AB020680	<del></del>	+	+	+	<del>                                     </del>	+	
KIAA0892	1	AB020699	+	++	<u>,</u>	+	_	+	<del></del>
KIAA0906	1	AB020713	+	+	+	+	_	<u></u>	
KIAA0991	1	AB023208.1		<u> </u>	_			+	
killer cell lectin-like	1	U11276		<del>   </del>		L_	_	<u> </u>	
receptor subfamily B, member 1 (KLRB1)	'	011276			+	+		+	
killer cell lectin-like receptor subfamily C, member 4 (KLRC4)	1	U96846							
kinectin 1 (kinesin receptor) (KTN1)	1	D13629							
kinesin family member 5B (KIF5B)	2	X65873		+	+	+			
kinesin-like DNA binding protein	1	AB017430	+	+	+	+		+	
Krueppel-related DNA- binding protein (TF6) (low match)		M61869							
Kruppel related gene (clone pHKR1RS)	1	M20675							
Kruppel-like zinc finger	3	U51869	+	+	+	+	+	+	
protein Zf9					·				
Kruppel-like zinc finger protein Zf9 (non-exact 76%)	1	U44975		+	+		+	+	
kruppel-type zinc finger protein, ZK1	1	AB011414.1							
L apoterritin	3	X03742							
lactate dehydrogenase A (LDHA)	3	X02152		+	+	+	+	+	
lactate dehydrogenase A (LDHA) (non-exact, 81%)	1	X02152							
lactate dehydrogenase B (LDHB)	6	X13794	+	+	+	+	+	+	high in fetal lung fibrablast
lactotransferrin (LTF)	1	U07643	+			+		+	high in bone marrow
laminin binding protein (low score)	1 70	D28372							
laminin receptor 1 (67kD); Ribosomal protein SA (LAMR1)	20	X15005	+	+	+	+	+	+	high in many libraries
laminin receptor homolog (3' region)	1	S35960							
laminin, gamma 1 (formerly LAMB2) (LAMC1)	2	J03202	+	+	+			+	

latent transforming growth factor beta binding protein 1 (LTBP1)	2	M34057		+	+	+		+	1.
LAZ3/BCL6 (=Z79582;D28522/4)	1	Z79581							
IDLC	2	Z34975	+	+	+	+		+	
lecithin-cholesterol acyltransferase (LCAT) (non-exact, 66%)	1	M17959							
lectin, galactoside-binding, soluble, 2 (galectin 2) (LGALS2)		M87842				+			
lectin, galactoside-binding, soluble, 3 binding protein (galectin 6 binding protein) (LGALS3BP)	1	L13210	+	+	+	+		+	
leucine rich repeat (in FLII) interacting protein 1 (LRRFIP1)	5	AJ223075	+	+	+	+	+	+	
leucocyte immunoglobulin- like receptor-5 (LIR-5)	2	AF072099				+			
leucocyte immunoglobulin- like receptor-6a (LIR-6)	7	AF025530							
leucocyte immunoglobulin- like receptor-7 (LIR-7)	2	U82275		+					only found in CNS .
leukemia virus receptor 1 (GLVR1)	1	L20859	+	+	+	+		+	
leukocyte adhesion protein p150,95 alpha subunit	1	M29484							
leukocyte antigen, HLA-A2	3	Y13267				1			
leukocyte immunoglobulin- like receptor (MIR-10)	3	AF025528		+					
leukocyte tyrosine kinase (LTK)	1	X60702	+						found only in blood
leukocyte-associated lg- like receptor 1 (LIAR1)	3	AF013249				+			
leukotriene A4 hydrolase (LTA4H)	6	J03459	+	+	+	+	+	+	
leupaxin (LDPL)	2	AF062075	+			+		+	
ligase I, DNA, ATP- dependent (LIG1)	1	M36067	В, Т	+	+		+	+	
LIM and SH3 protein 1 (LASP1)	2	X82456	+	+	+	+	+	+	
LIM domain kinase 2 (LIMK2)	2	AC002073	+	+	+	+		+	
line-1-protein	1								
Line-1 repeat mRNA with 2 open reading frames	1	U93566	+	+	+	+	+	+	
Line-1 repeat with 2 open reading frames	1	M22332	+	+	+	+	+	+	high in gastric tumor
LINE-1 REVERSE TRANSCRIPTASE HOMOLOG	1	P08547							
lipase A, lysosomal acid, cholesterol esterase (Wolman disease) (LIPA)	4	X76488	+	+	+	+		+	
lipase, hormone-sensitive (LIPE)	1	L11706	+	+				+	
ĽMP7	1	L11045					· ·		
Lon protease-like protein (LONP)	2	X74215	+	+	+	+		+	
low density lipoprotein- related protein 1 (alpha-2- macroglobulin receptor) (LRP1)	2	AF058414					+		only in liver
low density lipoprotein- related protein-associated protein 1 (alpha-2- macroglobulin receptor- associated protein 1) (LRPAP1)	1	M63959		+	+		+	+	:

								•	C1/CA00/00003
low density lipoprotein- related protein-associated	1	M63959				T	П		:
protein 1 (alpha-2-		İ			1			ļ	ľ
macroglobulin receptor-				1				ļ	
associated protein 1) (LRPAP1) (non-exact,	ł		1	1	1	ļ			
(175%)				1		ĺ			
low-affinity Fc-gamma		L08107		+	┼	┼			<del></del>
receptor IIA					1		1		
LPS-induced TNF-alpha	9	AF010312	+	+	+	+	+	+	
factor (PIG7)				1			<u>l</u> .	l.	
Lst-1	1	U00921	+	+	+	+		+	
L-type amino acid	1	AF104032				T			
transporter subunit LAT1	1	X79882	+	+	+	<b>├</b>	<u> </u>	ļ.,	
protein (LRP)		A79002	•	<b>†</b>	*	+	İ	+	
Lymphocyte antigen 75	1	AF011333	В	+	├	-	├─	-	
(LY75)				ŀ	Ì		l		
lymphocyte antigen 9 (LY9)	2	L42621							
lymphocyte antigen HLA-	2	L42345		<del>                                     </del>				_	· · · · · · · · · · · · · · · · · · ·
B*4402 and HLA-B*5101									
lymphocyte cytosolic protein 1 (L-plastin) (LCP1)	42	J02923							
lymphocyte cytosolic	4	U20158	····	٠,	lymr	ho	<u>_</u>	200	l voted
protein 2 (SH2 domain-	-	020100		,	ym	) IUI II	14, 1	activ	aled
containing leukocyte		1 1							
protein of 76kD) (LCP2)									
lymphocyte glycoprotein T1/Leu-1	2	X04391	+		+	}			
lymphocyte-specific protein	16	M33552	<del></del>	+-	+	+		+	
1 (LSP1)			· · · · · · · · · · · · · · · · · · ·		Ť	Ţ		۲	
lymphocyte-specific protein tyrosine kinase (LCK)	7	M36881		+				+	
lýmphoid phosphatase LyP1	1	AF001847							
lymphoid-restricted	4	U10485	+	<del> </del>	+	+			<del></del>
membrane protein (LRMP)	,	010400	•	1	, T				
lymphoid-specific SP100	1	U36500						+	
homolog (LYSP100-A)		1188878							
convertase (LPC)	2	U33849	+	+	+	+		+	
LYSOSOMAL	<del></del>	P10619				-		_	<del> </del>
PROTECTIVE PROTEIN	•			1					
PRECURSOR		]		1				- 1	
(CATHEPSIN A) (CARBOXYPEPTIDASE C)		1		i					
lysosomal-associated	<del></del>	J04182	<del></del>	+	+	+	+	+	··········
membrane protein 1	•	304102	•		_	7			
(LAMP1)								- 1	
Lysosomal-associated	1	J04183		+	+	+	+	+	
membrane protein 2 (LAMP2)				1				1	
lysozyme (renal	39	M19045	+	+	+	+		+	
amyloidosis) (LYZ)		11113040		'	,				
lysyl-tRNA synthetase	2	D32053	+	+	+	+		+	
(KARS) M phase phosphoprotein		V65353	<del></del>	<u> </u>					
10 (U3 small nucleolar	1	X98494						I	
ribonucleoprotein) (MPP-									
10)					į		- [	- 1	
M1-type and M2-type	2	X56494	·			$\neg$			
pyruvate kinase m6A methyltransferase	<del>7</del>	<u> </u>							
(MT-A70)	1	AF014837	+	+		+	ı		
mab-21 (C. elegans)-like 1	1	U38810	<del></del>	+	+	+		+	
(MAB21L1)					_	_			
MacMarcks	1	X70326	+	+	+	+	+	+	
macrophage-associated antigen (MM130)	1	Z22968		+	+	+		+	
GINDALL (IAUAL 120)		L							

WO 00/40 /49								1	J1/CA00/00005
MADS box transcription enhancer factor 2.	1	U49020		+	+	+		+	· ·
polypeptide A (myocyte					1				
enhancer factor 2A)						1	l	İ	]
(MEF2A) MADS box transcription	1	L08895		+-	-	+	₩	+	
enhancer factor 2,	'	200030		*	•	•			
polypeptide C (myocyte									
enhancer factor 2C) (MEF2C)									
major cytoplasmic tRNA-	1	X17516		1		T	-	$\vdash$	
Val(IAC) (=M33940) major histocompatibility	1	M95531		1		-		<del> </del>	
complex class I beta chain	'	10190001					l		1
(HLA-B)		700010				<u> </u>	<u> </u>	<u> </u>	
major histocompatibility complex, class I, A (HLA-A)	41	Z93949	+	+	+	+		+	high in villous adenoma
major histocompatibility	7	Z72422		<del>                                     </del>		<u> </u>		$\vdash$	decriona
complex, class I, A (HLA-A) (low match)									1
major histocompatibility	82	M24097	+	+-	+	+	+	+	
complex, class I, C (HAL-	<b></b>		·						
C) major histocompatibility	77	M20022	1	1				١.	
complex, class I, E (HLA-E)	"	IVIZUUZZ	+	+	+	+		+	
major histocompatibility	2	U15085	+	+	+	+		+	
complex, class II, DM BETA (HLA-DMB)							İ		
major histocompatibility	10	M57466	+	+	+	+	<del> </del>	+	
complex, class II, DP beta									
1 (HLA-DPB1) major histocompatibility	9	V00522	+	++	+	+		+	
complex, class II, DR beta	•		•	'				'	
1 (HLA-DRB1) Major histocompatibility	2	M24070				_		+	
complex, class II, Y box-	2	IVIZ4U/U		+	+		+	*	
binding protein I: DNA-									
binding protein B (YB1) malate dehydrogenase 1,	-1	D55654	+	++	+	+	+	+	
NAD (soluble) (mdh1)			·			Ĺ	Ŀ.		
malate dehydrogenase 1, NAD (soluble) (MDH1)	3	D55654		+	+		+	+	
malonyl-CoA	2	AF097832		+		-	<del> </del>	<del>                                     </del>	
decarboxylase precursor									
maltase-glucoamylase (mg)	1	AF016833				+			
manic fringe (Drosophila)	1	U94352	+	+	+	+	_	+	
homolog (MFNG)	<del></del>	Vacana				<u> </u>			Δ.
mannose phosphate isomerase (MPI)	1	X76057		+	+	+		+	
mannose phosphate	2	X76057		+	+	+		+	
isomerase (mpi)	·····	X56253							
receptor (cation	3	^30233	1	+	+		+	+	
dependent) (M6PR)									
mannose-P-dolichol utilitzation defect 1	1	AF038961		+	+	+		+	
(MPDU1)									
mannosidase, alpha B,	1	U60885		+		+	+	+	
lysosomal (MANB) mannosyl (alpha-1,3-)-	1	M55621	+	+	+	+	+	+	
glycoprotein beta-1,2-N-	•		·		-	, i		ľ	
acetylglucosaminyltransfer ase (MGAT1)									
map 4q35 repeat region	1	AF064849		+					
MAP kinase-interacting	2	AB000409		+	+	+	+	+	
serine/threonine kinase 1									
(MKNK1) MAP/ERK kinase kinase 3	- 5	U78876		+					
(MEKK3)	_			<u> </u>					
MAP/ERK kinase kinase 5 (MEKK5)	1	D84476		+	+		+		
(INITIAL)				<u> </u>		لــــا		L	L

MAP/microtubule affinity- regulating kinase 3 (MARK3)	4	M80359		+	+			+	
Marenostrin protein	1	Y14441		<del> </del>	<del>                                     </del>	$\vdash$	<del> </del>	╁	
MASL1	1	AB016816	<del></del>		╁	┼	<del> </del>	├	
MAX dimerization protein	3	L06895	<del> </del>		├	+	├	+	
(MAD)						_		Ľ	
MaxiK potassium channel beta subunit	1	AF035046		ı					
MBP-2 for MHC binding protein 2	1	X65644		+	+	+		+	
Meis (mouse) homolog 3 (MEIS3)	1	U68385	-	+	+	+		+	
melanoma-associated antigen p97 (melanotransferrin)	1	M12154							
membrane cofactor protein	4	X59405		+	+	+		+	
(CD46, trophoblast- lymphocyte cross-reactive antigen) (MCP)		700400						,	
membrane component,	4	D14696		+	+	+	+	+	
chromosome 17, surface marker 2 (ovarian carcinoma antigen CA125) (M17S2)									
membrane metallo-	2	J03779	В	<del> </del>	+	+	+	+	
endopeptidase (neutral endopeptidase, enkephalinase, CALLA,	_		J		,		•		
CD10) (MME) membrane protein,	2	VIEVEZE		<b>_</b>		Ļ.,			
palmitoylated 1 (55kD) (MPP1)		M64925		+	+	+	+	+	
meningioma expressed antigen (MGEA)	1	U94780				+			
meningioma-expressed antigen 11 (MEA11)	1	U73682	+	+		+	+		
Menkes Disease (ATP7A) putative Cu++-transporting P-type ATPase	1	L06133		+					
metallothionein 2A (MT2A)	1	V00594		++	+	+	+	+	······································
metaxin 1 (MTX1)	1	U46920		+ +		+		+	
methionine	2	X68836	+	+	+				
adenosyltransferase II, alpha (MAT2A)			*		•	+		+	•
methyl-CpG binding domain protein 1 (MBD1) (non-exact 59%aa)	1	Y10746							
methylene tetrahydrofolate	2	X16396	+	+	+	+		+	
dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase (MTHFD2)									İ
methylenetetrahydrofolate	1	J04031		+	+	+	+	+	
dehydrogenase (NADP+ dependent), methenyltetrahydrofolate									
cyclohydrolase, formyltetrahydrofolate									
synthetase (MTHFD1)									
methyltransferase, putative	2	AJ224442							
MHC antigen (HLA-B) (=L42024)	1	U14943							
MHC class 1 region	2	AF055066	···	$\vdash$		_	$\neg$	$\neg$	
MHC class I antigen (HLA-A2)	1	U70863						一	
MHC class I antigen (HLA-A33)	1	U19736	<del></del>						
MHC class l'antigen (HLA- C)	1	U38975		+			$\dashv$		
<u> </u>								1	

MHC class I antigen B*5801 (HLA-B)	1	U52813							
MHC class I antigen HLA-A (HLA-A)	2	AF015930					-		
MHC class I antigen HLA-A		U36687		<del>                                     </del>	-			<del> </del>	·-···
(HLA-A-2402 allele)	<u>_</u>								
MHC class I antigen HLA- A11K	2	X13112							
MHC class I antigen HLA-B (B*0801 variant)	1	U67331							
(=AF028596) MHC class I antigen HLA-B	<del></del>	U67330	<del></del>						
(B*0801 variant) (=U88254) MHC class I antigen HLA-B	7-	AF017328						_	
(B*48 allele) MHC class I antigen HLA-B	1	AF014770						ļ	
(HLA-B*1502 allele)									
MHC class I antigen HLA-B (HLA-B*40MD)	1	U58643						1	
MHC class I antigen HLA-B (HLA-B*4103 allele)	1	AF028596							
MHC class I antigen HLA-B gene (HLA-B*4402 variant	1	AF035648							
allele)									
MHC class I antigen HLA-B GN00110-B*3910	1	U52175						<u> </u>	
MHC class I antigen HLA- Cw*04011	1	D83030							·
MHC class I antigen R69772 HLA-A (A*0302)	1	U56434							
MHC class I antigen SHCHA (HLA-B*4403	1	U58469							·
variant)				li					
MHC class I	1	U06697							
histocompatibility antigen (HLA-B) (clone C21/14)				1 1	Ì				
MHC class I HLA B71	2	L07950							
MHC class I HLA-A (Aw33.1)	1	Flp							
MHC class I HLA-B	1	U18680							
MHC class I HLA-B (HLA-	1	U18661		11				<b></b>	
B-07ZEL allele) (=X86704) MHC class I HLA-B (HLA-	1	U28759							
B-08NR aliele)		170004						ļ	
MHC class I HLA-B*3512	1	L76094							
MHC class I HLA-B41 variant (=U17572)	3	U17572							
MHC class I HLA-B44.2 chain	. 1	M24038							
MHC class I HLA-B51- cd3.3	1	L41086							
MHC class I HLA-C allele	2	Z33459							
MHC class I HLA-Cw*0304 (=M84172; M99389)	1	D64150							
MHC class THLA-Cw*0803	3	Z15144							
MHC class THLA-Cw6	1	M28206	· · · · · · · · · · · · · · · · · · ·						
MHC class I HLA-J antigen	1	L56139							
MHC class I lymphocyte antigen A2 (A2.1) variant DK1	1	M19670	· · · · · · · · · · · · · · · · · · ·						
MHC class I mic-B antigen	1	X91625							
MHC class I polypeptide- related sequence A (MICA)	1	L14848				+			
MHC class I protein HLA-C heavy chain (C*0701new allele) (=AF017331)	1	U61274							
MHC class II DNA Sequence (clone A37G7- 1C11)	1	L18885							
							_		

MHC class II DQ-alpha associated with DRw6, DQw1 protein	1	M16995	+		+	+		+		.,,
MHC class II DQ-beta associated with DR2, DQw1 protein	2 ·	M17564		+		+		+		
MHC class II HAL-DQ- LTR5 (DQ,w8) DNA fragment, long terminal repeat region	1	M33842								
MHC class II hla-dr alpha- chain (=J00197;M60334;K01117 1;J00194;M60333;X00274)	1	J00195								
MHC class II HLA-DRB1	1	AF007883								
MHC class II HLA-DRw11- beta-I chain (DRw11.3)	1	M21966		1						····
MHC class II lymphocyte antigen (DPw4-beta-1)		M23907								
MHC CLASS II TRANSACTIVATOR CIITA (non-exact 57%)	1	P33076								
MHC HLA-E2.1 (=X87679)	1	M32507								
MHC HLA-E2.1 (alpha-2 domain) (low match)	1	M32507				<u> </u>				
Mi-2 autoantigen 240 kDa protein (non-exact 84%)	1	U08379								
microsomal stress 70 protein ATPase core (stch)	1	U04735								
microtubule-associated protein 4 (MAP4) microtubule-associated	1	U19727	+	+	+	+		+		
protein 7 (MAP7) mineralocorticoid receptor	1 2	X73882						_	 	
(aldosterone receptor)	_	M16801		+		+		+		
minichromosome maintenance deficient (S. cerevisiae) 3 (MCM31)	1	X62153		+	+	+		+		
minichromosome maintenance deficient (S. cerevisiae) 3-associated protein (MCM3AP)	1	AB011144		+	+	+		+		
minichromosome maintenance deficient (S. cerevisiae) 5 (cell division cycle 46) (MCM5)	2	X74795	+	+	+	+	+	+		•
mitochondiral cytochrome b (CYTB)		AF042517							 ,	
mitochondrial 16S rRNA	11	270759								
mitochondrial ATP synthase (F1-ATPase) alpha subunit	2	X59066								
mitochondrial ATP synthase c subunit (P1 form)	1	X69907								
mitochondrial cytochrome b (CYTB)	6	AF042508								
mitochondrial cytochrome b small subunit of complex II	1	AB006202							<del> </del>	
mitochondrial CYTOCHROME C OXIDASE POLYPEPTIDE I	1	P00395								
mitochondrial CYTOCHROME C OXIDASE POLYPEPTIDE	1	P00403								
mitochondrial cytochrome C oxidase subunit II	2	P00403		·					 	

mitochondrial cytochrome oxidase subunit II (COII) (=U12692 Hsa4	5	U12691							
mitochondrion cytochrome oxidase subunit II)									
mitochondrial DNA loop attachment sequences (clone LAS34)	1	X89763							
mitochondrial DNA	1	U94703		++		╁─╌	+	+	
polymerase accessory									
subunit precursor (MtPolB) nuclear gene encoding					1	İ		ł	
mitochondrial protein,							1		
mitochondrial DNA,	1	X93334				Ť		1	
complete genome mitochondrial genes for	8	V00710		<del> </del>	<u> </u>	1		<b>-</b>	ļ
several tRNAs (Phe, Val, Leu) and 12S and 16S		1 000710							
ribosomal RNAs.	3	Vonego				ļ	<u> </u>	<u> </u>	
mitochondrial genes for tRNA (Phe) and 12S rRNA (fragment)	3	V00660							
mitochondrial inner	1	AF106622				<del>                                     </del>	t		
membrane preprotein translocase Tim17a					1			İ	
mitochondrial isolate Afr7	1	AF042503		+	-	├─	-	-	
cytochrome b(CYTB)			-						
mitochondrial loop attachment sequence (clone LAS88)		X89843							
mitochondrial NADH	14	AF014893		<del> </del>		<del>                                     </del>	<del>                                     </del>	$\vdash$	
dehydrogenase subunit 2 (ND2) mitochondrial translational		124650					ļ		
initiation factor 2 (MTIF2)	1	U09500		+	+	+		+	
b									
mitogen inducible gene mig-2	1	Z24725		+	+	+		+	·
mitogen inducible gene mig-2 (non-exact, 71%)	1	Z24725							
mitogen-activated protein kinase-activated protein kinase 3 (MAPKAPK3)	2	U43784		+	+	+		+	
MLN51	2	X80199		+	+	+	+	+	
MLN64 (=D38255 CAB1)	1	X80198	+	+	+	+			
moesin (MSN)	14	M69066	+	+	+	+		+	
monocytic leukaemia zinc finger protein (MOZ)	2	U47742		+	+	+		+	
MOP1 ()	2	U29165				<del>                                     </del>			
motor protein (Hs.78504)	2	D21094	+	+	+	+		+	
mouse double minute 2, human homolog of; p53-	7	U39736			+	+			
binding protein (MDM2) M-phase phosphoprotein 6	1	X98263		-	+	+		+	
(MPP-6)								Ť	
M-phase phosphoprotein, mpp11 MPS1	1	X98260							
Mr 110,000 antigen	2	D64154		+		+			
MRC OX-2, V-like region	1	X05324		$\vdash$			+	+	
(=M17227) mu-adaptin-related protein-	<del>1</del>	Y08387						<u> </u>	
2; mu subunit of AP-4 (MU-ARP2)	_								
multifunctional polypeptide similar to SAICAR	1	X53793	+	+	+	+		+	
synthetase and AIR									
carboxylase (ADE2H1)				1					

WO 00/40749									
murine leukemia viral (bmi- 1) oncogene homolog (BMI1)	1	L13689		+		+		+	19
mutant (Daudi) beta2 -	44	X07621							
mutated in colorectal cancers (MCC)	1	M62397		+	+			+	
myeloid cell leukemia sequence 1 (BCL2-related) (MCL1)	9	L08246	+	+	+	+	+	-	
myeloid cell nuclear differentiation antigeN (MNDA)	11	M81750	+					+	
myeloid differentiation primary response gene (88) (MYD88)	4	U70451		+	+	+		+	
myeloid leukemia factor 2 (MLF2)	3	U57342		+		+		+	
myeloid/lymphoid or mixed- lineage leukemia (trithorax (Drosophila) homolog); translocated to, 7 (MLLT7)	8	U89867		+	+	+		+	
MYH9 (cellular myosin heavy chain)	1	M81105							
myomesin (M-protein) 2 (165kD) (MYOM2)	1	X69089							
myosin IE (MYO1E)	11	X98411		+		+			•
myosin light chain kinase (MLCK)	1	U48959	+		+	+		+	
myosin phosphatase, target subunit 1 (MYPT1)	2	D87930		+	+	+		+	
myosin regulatory light chain (=U26162)	2	D50372							
myosin VIIa (low match 71)	1	U55208		1					
myosin, heavy polypeptide 9, non-muscle (MYH9)	3	M81105	+	+	+	+		+	
myosin, light polypeptide, regulatory, non-sarcomeric (20kD) (MLCB)	6	X54304	+	+	+	+	+	+	
myosin-l beta	1	X98507	+	+	+	+		+	
myristoylated alanine-rich protein kinase C substrate (MARCKS, 80K-L) (MACS)	1	D10522		+	+				
myxovirus (influenza) resistance 1, homolog of murine (interferon-inducible protein p78) (MX1)	1	M30817	+	+	+	+		+	
myxovirus (influenza) resistance 2, homolog of murine (MX2)	3	M30818			+			! !	
N-acetylgalactosaminidase, alpha- (NAGA)	2	M62783		+	+		+	+	
N-acetylglucosamine receptor 1 (thyroid) (NAGR1)	1	L03532		+	+	+		+	
NACP/alpha-synuclein	2	U46896							
N-acylaminoacyl-peptide hydrolase (APEH)	1	D38441		+	+		+	+	
N-acylsphingosine amidohydrolase (acid iceramidase) (ASAH)	11	U47674	+	+	+	+		+	
NAD+-specific isocitrate dehydrogenase beta subunit precursor (encoding mitochondrial protein)	1	U49283	+	+	+	+	+	+	
NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5 (13kD, B13) (NDUFA5)	1	U53468.1	+	+	+	+	+		

WO 00/40749								r	C1/CA00/00003
NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5 (16kD, SGDH) (NDUFB5)	1	AF047181		T *	+	+	+	+	
NADH dehydrogenase (ubiquinone) Fe-S protein 2 (49kD) (NADH-coenzyme Q eductase) (NDUFS2)	7	AF050640		1	+	+	+	+	
NADH dehydrogenase (ubiquinone) flavoprotein 2 (24kD) (NDUFV2)	1	M22538			+	+	+	+	
NADH:ubiquinone dehydrogenase 51 kDa subunit (NDUFV1)	2	AF053070	+	+	+	+	+	+	
NADH-CYTOCHROME B5 REDUCTASE (B5R) (50%aa)	1	P00387							
NADH-UBIQUINONE OXIDOREDUCTASE CHAIN 1	1	P03886							
Nardilysin (N-arginine dibasic convertase) (NRD1)	2	U64898	+	+	+	+		+	
nascent-polypeptide- associated complex alpha polypeptide (NACA)	5	X80909		+	+		+	+	
natural killer cell group 7 sequence (NKG7) natural killer cell transcript	19	S69115 M32011	+	ļ		+		+	
4 (NK4)				ļ				_	bland only
transcript 3 (NKAT3)	1	U30274	+						blood only
natural killer-associated transcript 5 (NKAT5)	1	AF022045	+						blood only
natural killer-tumor recognition sequence (NKTR)	1	L04288	В		+		+	+	
N-deacetylase/N- sulfotransferase (heparan glucosaminyl) 2 (NDST2)	2	AF042084	+	+				+	
Ndr protein kinase	3	Z35102		+					
Nedd-4-like ubiquitin- protein ligase WWP1	1	U96113							
nel (chicken)-like 2 (NELL2)	3	D83018		+	+				
N-ethylmaleimide-sensitive factor attachment protein, alpha (NAPA)	1	U39412		+			+		
N-ethylmaleimide-sensitive factor attachment protein, gamma (NAPG)	1	U78107		+	+	+			
neural precursor cell expressed, developmentally down- regulated 5 (NEDD5)	3	X92544	+	+	+	+			high in testis
neural precursor cell expressed, developmentally down- regulated 8 (NEDD8)	1	D23662	+	+	+	+	+	+	
neuregulin 1 (NRG1)	1	U02330		+		+	+		
neuroblastoma RAS viral (v-ras) oncogene homolog (NRAS)	4	AB020692	+	+	+	+		+	
Neuroblastoma RAS viral (v-ras) oncogene homolog (NRAS) (low match)	1	X68286	,						
Neurofibromin 2 (bilateral acoustic neuroma) (NF2)	1	S73853		+				+	
neuronal apoptosis inhibitory protein (NAIP)	2	U19251	+	+	+			+	
neuronal cell adhesion molecule (NRCAM)	11	AB002341		+	+	+		+	
		<u> </u>	·						<del> </del>

1	AJ004832		+	+	+		+	:-
1	D28433							
14	X03541		+	+	+	+	+	
2	U50720							
1	AF129756		1					
1	X99133		+					
1	AF051334		1					
	AB014587		1 + 1	+	+		+	
1	U72661		+	+	+		+	
1	AF069987							
7	X54870	<del></del>						
<del></del>	U32849							
1	AF043324		+	+	+	+	+	
1	U79569		+	+	+		+	
1	D50420	+	+	+	+	+	+	
1								
1	U48734							
3	M22918	+	+	+	+	+	+	High in fetal adrenal gland and BPH stroma
1	X16289	· · · · · · · · · · · · · · · · · · ·						
1	M33689							
3	X53778	+	+	+	+	+	+	high in many libraries
3	M99437							
1	X99961		1					
1	X94232		+	+	+		+	
1	A60196							
1	U60111		+				+	
1	U96876	+	+	+	+	+	+	
3	L12002	+			+			
1	M63838	+	+	+	+		+	
1	M15330		+	<del>                                     </del>		<del>                                     </del>	$\vdash$	
2	U83908		+	+	+		+	
4	U36501	+	-		+	+	+	
1	P23497	<del></del>	-	$\vdash$		$\vdash$	<b>†</b>	
1	P23497	*	1-			$\vdash$	1	
1	M97856	+	+	+	T		$\top$	
	1	1	1	1	1	1	1	1

nuclear corepressor KAP-1 (KAP-1) (=U95040; X97548 TIF1beta zinc finger	-1	U78773							5,-
protein)				1			1		
Nuclear domain 10 protein (NDP52)	4	U22897	+	+	+	+	+	+	
Nuclear factor (erythroid- derived 2)-like 2 (NFE2L2)	1	S74017		+	+	+	+	+	
Nuclear factor of kappa light polypeptide gene	2	M58603		+	+		+	+	
enhancer in B-cells 1 (p105) (NFKB1)								ľ	,
nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha (NFKBIA)	3	M69043		+	+	+		+	
nuclear factor related to kappa B binding protein (NFRKB)	1	U08191		+	+	+		+	
nuclear mitotic apparatus	3	Z11583	+	+	+	+	+	+	
protein 1 (NUMA1) nuclear receptor coactivator 2 (GRIP1)	1	X97674		<del> </del>					
nuclear receptor	2	AF010227	+	+	+	├		+	
coactivator 3 (AIB3)	22	X77548		+	+	+	+	+	
coactivator 4 (ELE1)							Ľ		
nuclear receptor interacting protein 1 (NRIP1)	1	X84373	_	+		+		+	
nuclear respiratory factor 1 (NRF1)	1	U02683	В	+	+				
nuclear RNA helicase, DECD variant of DEAD box family (DDXL)	4	U90426	+	+	+	+		+	
nuclear transcription factor Y, alpha (NFYA)	1	X59711	В						
nuclear transcription factor, X-box binding 1 (NFX1)	3	U15306		+	+		+		
nuclear transport factor 2 (placental protein 15) (PP15)	1	X07315	+	+	+	+		+	
nucleóbindin (=M96824)	1	U31336							
nucleobindin 1 (NUCB1)	2	M96824	+	+	+	+		+	
nucleolar phosphoprotein p130 (P130)	1	Z34289		+	+				
nucleolar protein (KKE/D repeat) (NOP56)	1	Y12065	+	+	+	+		+	
nucleolar protein (MSP58)	1	AF015308		1			_		
nucleolar protein 1 (120kD) (NOL1)	1	M32110	+	+					
nucleolar protein p40	1	U86602	+	+	+	+		+	
nucleolin (NCL)	2	M60858	+	+	+	+		+	
nucleophosmin (nucleolar phosphoprotein B23, numatrin) (NPM1)	14	M28699	+	+	+	+		+	
nucleophosmin-retinoic acid receptor alpha fusion protein NPM-RAR long form	7	U41742							
nucleoporin (NUP358) (=D42063 RanBP2 (Ran- binding protein 2))	2	L41840							
nucleoporin 153kD (NUP153)	1	Z25535	· · · · · · · · · · · · · · · · · · ·						
nucleoporin 98kD (NUP98)	1	U41815							
nucleosome assembly protein	1	D28430							
nucleosome assembly protein 1-like 1 (NAP1L1)	1	M86667		+	+	+		+	·
nucleosome assembly protein 1-like 4 (NAP1L4)	2	U77456	+	+	+	+		+	
· · · · · · · · · · · · · · · · · · ·				•					

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PCT/CA00/00005

nucleosome assembly 1 D28430 protein, 5'UTR  olfactory receptor (OR7- 1 U86281	.,
141) OLFACTORY RECEPTOR- LIKE PROTEIN HGMP07E (OR17-4) (non-exact 65%) oligodendrocyte myelin glycoprotein (OMG) O-linked N- acetylglucosamine	
LIKE PROTEIN HGMP07E (OR17-4) (non-exact 65%)  oligodendrocyte myelin 7 L05367 + glycoprotein (OMG)  O-linked N- 1 U77413 + + + + + + + + + + + + + + + + + + +	
oligodendrocyte myelin 7 L05367 + glycoprotein (OMG) O-linked N- 1 U77413 + + + + + + + + + + + + + + + + + + +	
O-linked N- 1 U77413 + + + + + + + + + + + + + + + + + + +	
(UDP-N- acetylglucosamine:polypep tide-N-acetylglucosaminy)	· · · · · · · · · · · · · · · · · · ·
transferase) (OGT) oncofetal trophoblast glycoprotein 5T4 precursor (non-exact 55%)	<del></del>
Oncogene TIM (TIM) (non- exact 84%)	
ORF (Hs.77868) 1 M68864 + + + + + + +	
ORF1; MER37; putative 1 U49973 transposase similar to pogo element Length = 454	
origin recognition complex, 2 U27459 + subunit 2 (yeast homolog)- like (ORC2L) +	
origin recognition complex, 1 AF022108 subunit 4 (yeast homolog)- like (ORC4L) (low match)	
ornithine aminotransferase 2 M23204 + + + + (gyrate atrophy) (OAT)	
ornithine decarboxylase 1 M20372 (ODC)	
ornithine decarboxylase antizyme, ORF 1 and ORF 2	reas, I T cells
orphan receptor 2 U07132 + + + + + + (Hs.100221)	
(Hs.100221) OS-9 precurosor 6 AB002806 + + + + + + + + osteonectin (=X82259 BM- 1 D28381	
(Hs.100221) OS-9 precurosor 6 AB002806 + + + + + + + + + + + + + + + + + + +	
(Hs.100221) OS-9 precurosor 6 AB002806 + + + + + + + + + + + + + + + + + + +	
(Hs.100221) OS-9 precurosor 6 AB002806 + + + + + + + + + + + + + + + + + + +	
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(Hs.100221) OS-9 precurosor 6 AB002806 + + + + + + + + + + + + + + + + + + +	

p62 nucleoporin	1	X58521	r <del></del>		Γ	Т	T-	T	1
p63 mRNA for	1	X69910	+	+	+	+		+	
transmembrane protein	1	Q07108			L	Ь.	_		
from 7q33-q36 (non-exact 54%)	'	Q07108							
palmitoyl-protein thioesterase (ceroid- lipofuscinosis, neuronal 1, infantile; Haltla-Santavuori disease) (PPT)	10	U44772		+	+	+		+	
papillary renal cell carcinoma (translocation- associated) (PRCC)	1	X99720	+	+	+	+	+	+	
PAR protein	1	AF115850		+		+			
partial EST (clone c-1gh04)	1	Z43627							
PAX3/forkhead transcription factor gene fusion		U02368							
paxillin (PXN)	4	D86862		+	+	+		+	
PBK1 protein	2	AJ007398	+	+	+	+		+	
PBS-EST (nz92e01.s1 NCI_CGAP_GCB1 clone IMAGE:1302936) (low score)		AA732534							
PDZ domain protein (Drosophila inaD-like) (INALD)	1	AJ224747	+			+		+	
PEBP2aC Runt domain encoding gene (=Z35728)	1	Z38108							
peptidase D (PEPD)	1	J04605		1		<u> </u>	╁	<del>                                     </del>	
peptidylprolyl isomerase A (cyclophilin A) (PPIA)	3	Y00052		+	+	+	+	+	high in many libraries
peptidylprolyl isomerase D (cyclophilin D) (PPID)	2	L11667	T	+	+		+	+	
peptidylprolyl isomerase E (cyclophilin E) (PPIE)	1	AF042386		+	+		+	+	·
PERB11.1 (=U56942 MHC class I chain-related protein A)	1	U69630							
perforin 1 (preforming protein) (PRF1)	14	M28393				-	-		
peroxisomal acvi-CoA	2	X86032				_	-	-	
thioesterase (PTE1) Peroxisomal acyl-	1	X71440	· · · · · · · · · · · · · · · · · · ·	+	+	+	+	+	
coenzyme A oxidase peroxisomal famesylated		VYEENE		1 1		<u> </u>		<u> </u>	
protein (PXF)	1	X75535		†	+	+	+	+	
phorbol-12-myristate-13- acetate-induced protein (PMAIP1)	1	D90070	B, W						
phosphate carrier (mitochondrial gene?)	1	X77337	<u> </u>						
Phosphate camer, mitochondrial (PHC)	3	X60036	+	+	+	+		+	
phosphate cytidylyltransferase 1, choline, alpha isoform (PCYT1A)	1	L28957	T		+		+		
PHOSPHATIDATE CYTIDYLYLTRANSFERAS E (CDP-DIGLYCERIDE)	1 -	Q92903							
phosphatidylinositol 3- kinase delta catalytic subunit	2	U57843							
phosphatidylinositol 4- kinase, catalytic, beta polypeptide (PIK4CB)	3	AB005910	+	+	+	+		+	
phosphatidylinositol glycan, class H (PIGH)	1	L19783		+	+	+	+	+	

phosphatidylinositol transfer protein (PI-TPbeta)	2	D30037	1			Τ	<u> </u>	Г	Ţ
phosphatidylinositol transfer protein,	2 .	X98654	B, T	+	-		<u> </u>	╁	
membrane-associated (PITPNM)			lymphoma						
phosphatidylinositol transfer protein,	1	X98654							
membrane-associated (PITPNM) (non-exact 64%)								ļ	
phosphatidylinositol-4- phosphate 5-kinase, type II, alpha (PIP5K2A)		U14957			+		+		
phosphatidylinositol-4- phosphate 5-kinase, type II, beta (PIP5K2B)	1	U85245		+	+	+		+	
phosphodiesterase 7A (PDE7A)	1	L12052	B, W	+	+		+	1	
phosphodiesterase IB (PDES1B)	1	U56976		ON	LY				
phosphoglucomutase 1 (PGM1)	2	M83088		+	+	+		+	
phosphogluconate dehydrogenase (PGD)	1	U30255			+				
phosphoglycerate kinase 1 (PGK1)	12	V00572							
phosphoglycerate mutase 1 (brain) (PGAM1)	3	J04173	<b>+</b> .	+	+	+	+	+	·
phosphoglycerate mutase 2 (muscle) (PGAM2)	1	M55673		+	+			+	
phosphoinositide-3-kinase, catalytic, alpha polypeptide (PIK3CA)	1	Z29090		+	+	+			
phosphoinositide-3-kinase, catalytic, delta polypeptide (PIK3CD)	4	U86453		+	+	+		+	
phosphoinositide-3-kinase, catalytic, gamma polypeptide (PIK3CG)	1	X83368							
phospholipase C	1	X14034							
phospholipase C, delta 1 (PLCD1)	2	U09117		+	+	+		+	
phospholipase C, gamma 1 (formerly subtype 148) (PLCG1)	1	M34667	+	+	+	+		+	
phospholipid scramblase	1	AF008445							
phosphoribosyl pyrophosphate synthetase- associated protein 1 (PRPSAP1)	1	D61391		+	+			+	
phosphoribosylglycinamide formyltransferase, phosphoribosylglycinamide synthetase, phosphoribosylaminoimida zole synthetase (GART)	3	X54199		+	+	+	+	+	
phosphorylase kinase, alpha 2 (liver), glycogen storage disease IX (PHKA2)	3	D38616		+	+	+	+	+	,
phosphorylase, glycogen; brain (PYGB)	1	U47025	+	+	+			+	
phosphorylase, glycogen; brain (PYGB) (low match, non-exact, 75%)		U47025							
phosphorylase, glycogen; liver (Hers disease, lycogen storage disease type VI) (PYGL)	1	Y15233		+	+	+		+	
phosphorylation regulatory protein HP-10	2								
phosphotidylinositol transfer protein (PITPN)	1	D30036	+	+	+	+		+	
		1		1					<u></u>

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pigment epithelium-derived factor (PEDF)	7	U29953	+	+	+	+	+	T+				
pim-1 oncogéne (PIM1)	1	M24779	+	+	+			+				
pinin, desmosome associated protein (PNN)	1	U77718		В	, mor	nocyt	ė, T	lymp	homa			
placenta (Diff33)	5	U49188		T+	+	+	Т	+				
placenta (Diff33) (non- exact, 69%)	1	U49188						T				
placenta (Diff48)	18	U49187	+	+-	<del> </del>	┼	-	┼				
placenta (Diff48) (low match)	1	U49187	<del></del>	1		$\vdash$	$\vdash$	┢	<u> </u>			
placenta(Diff48) (low match)	1	U49187		<b> </b>		1						
plasminogen activator, urokinase receptor (PLAUR)	1	X74039		+		+		+				
platelet factor 4 (PF4)	1	M25897		<del> </del>	+			+	<del>-</del>			
platelet/endothelial cell adhesion molecule (CD31 ntigen) (PECAM1)	8	M37780		+	+	+	+	+				
platelet-activating factor acetylhydrolase 2 (40kD) (PAFAH2)	4	U89386		+	+	+						
platelet-activating factor acetylhydrolase, isoform lb, alpha subunit (45kD) (PAFAH1B1)	1	U72342	+	+	+	+	+	+				
platelet-activating factor receptor (PTAFR)	1	D10202		+				+				
pleckstrin (PLEK)	10	X07743		<del>                                     </del>	+	+		+				
pleckstrin (PLEK) (low match)	1	X07743				<u> </u>					_	
pleckstrin homology, Sec7 and coiled/coil domains 1(cytohesin 1) (PSCD1)	4	M85169	+	+		+		+		- '		
pleckstrin homology, Sec7 and coiled/coil domains, binding protein (PSCDBP)	4	L06633	+			+				•		
pM5 protein	1	X57398	+	+	+	+		+				
PMP69	2	Y14322		1-								
poly (ADP-ribose) polymerase (NAD (+) ADP- ribosyltransferase) (=X16674)	1	X56140	,								-	
poly(A) polymerase (PAP)	1	X76770	+	+	+	+		+				
poly(A)-binding protein-like 1 (PABPL1)	19	Y00345	+	+	+	+	+	+				
poly(rC)-binding protein 1 (PCBP1)	3	X78137	+	+	+	+	+	+				
polyadenylate binding protein	1 -	U75686										
polycystic kidney disease 1 (autosomal dominant) (PKD1)	5	U24498								•		
polymerase (DNA directed), beta (POLB)	1	D29013		+			+	+	-			
polymerase (DNA directed), gamma (POLG)	6	D84103										
polymerase (RNA) II (DNA directed) polypeptide A (220kD) (POLR2A)	1	X63564	+	+	+	+	+	+		•		
polymyositis/scleroderma autoantigen 2 (100kD) (PMSCL2)	1	L01457	+	+	+	+	+	+				
polypyrimidine tract binding protein (heterogeneous nuclear ribonucleoprotein I) (PTB)	1	X65372	+	+	+	+	+	+				

WO 00/40/49									.1/CA00/00005
positive regulator of programmed cell death ICH-1L (Ich-1)	3	U13021			+				6.
postmeiotic segregation increased 2-like 12 (PMS2L12)	1	M16514	+	+	+	+		+	
postmeiotic segregation increased 2-like 8 (PMS2L8)	1	U38964	+	+	+	+		+	
potassium inwardly- rectifying channel, subfamily J, member 15 (KCNJ15)	1	D87291				+		+	
potassium voltage-gated channel, KQT-like subfamily, member 1 (KCNQ1)	1	AF051426		+	+	+		+	
POU domain, class 2, associating factor 1 (POU2AF1)	1	Z49194				+			
POU domain, class 2, transcription factor 1 (POU2F1)	2	X13403		+		+			
PPAR binding protein (PPARBP)	1	Y13467	+	+	+	+		+	
PPAR gamma2	1	D83233			L			L_	
pre-B-cell colony- enhancing factor (PBEF)	8	U02020							
prefoldin 1 (PFDN1)	1	Y17392	+	+	+	+	+	+	
prefoldin 5 (PRFLD5)	3	D89667	В	+	+		+	$\vdash$	
prefoldin subunit 3 (=U96759 von Hippel- Lindau binding protein (VBP-1))	1	Y17394							
pregnancy-associated plasma protein A (PAPPA)	1	U28727		+		+			high in placenta
pre-mRNA splicing factor SF3a (60kD), similar to S. cerevisiae PRP9 (spliceosome-associated protein 61) (SF3A60)	1	U08815	+	+	+	+		+	·
pre-mRNÁ splicing factor SF3a (60kD), similar to S. cerevisiae PRP9 (spliceosome-associated protein 61) (SF3A60) (low score)	1	U08815							
pre-mRNA splicing factor SRp20, 5'UTR	2	D28423							
preprotein translocase (TIM17)	3	X97544	+	+	+	+		+	
prion protein	1	X82545							
prion protein (p27-30) (Creutzfeld-Jakob disease, Gerstmann-Strausler- Scheinker syndrome, fatal familial insomnia) (PRNP)	1	M13899		+	+	+		+	
pristanoyl-CoA oxidase (low match)	1	Y11411							
pristanoyl-CoA oxidase (low score)	1	Y11411							
procollagen-lysine, 2- oxoglutarate 5- dioxygenase (lysine hydroxylase, Ehlers-Danlos syndrome type VI) (PLOD)	1	M98252		+	+	+		+	
procollagen-proline, 2- oxoglutarate 4- dioxygenase (proline 4- hydroxylase), alpha polypeptide 1 (P4HA1)	1	M24486	+	+	+	+	+	+	

W C 00/40/49								10	1/CA00/00003	
procollagen-proline, 2- oxoglutarate 4- dioxygenase (proline 4- hydroxylase), beta polypeptide (protein disulfide isomerase; thyroid hormone binding protein p55) (P4HB)		X05130	+	+	+	+	+	+	6	T
profilin 1 (PFN1)	1	J03191	+	+	+	+	+	+		1
progesterone receptor- associated p48 protein (P48)	2	028918		+						1
prohibitin (PHB)	1	S85655		+	+	+	+	+		7
proliferating cell nuclear antigen (PCNA)	3	J04718	+	+	+	+		+		1
proliferation-associated gene A (natural iller- enhancing factor A) (PAGA)	4	L19184	+	+	+	+	+	+		
proline-rich protein BstNI subfamily 2 (PRB2) (non- exact, 43%aa)	1	S62936								
proline-serine-threonine phosphatase interacting protein 1 (PSTPIP1)	1	U94778								
prolyl endopeptidase (PREP)	2	X74496		+		+		+		
prolylcarboxypeptidase (angiotensinase C) (PRCP)	5	L13977		+	+	+	+	+		1
promyelocytic leukemia (PML)	1	M80185	+	+	+	+		+		1
properdin P factor, complement (PFC)	4	X57748	+							1
pro-platelet basic protein (includes platelet basic protein, beta- thromboglobulin, connective tissue-activating peptide III, neutrophil-activating peptide-2) (PPBP)	1	M54995			+	+		+		
pro-platelet basic protein (includes platelet basic protein, beta- thromboglobulin, connective tissue- activating peptide III, neutrophil-activating peptide-2) (PPBP)	7	M54995	+		+		+			
proprotein convertase subtilisin/kexin type 7 (PCSK7)	4	U40623								
prosaposin (variant Gaucher disease and variant metachromatic leukodystrophy) (PSAP)	89	D00422	+	+	+	+	+	+		
prostaglandin- endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase) (PTGS1)	1	U63846	В	+			+	+		
prostaglandin- endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxydenase) (PTGS2)	2	L15326								
prostaglandin- endoperoxide synthase-1 (=L08404; U84208) (all promoters)	1	D64068								1
prostate carcinoma tumor antigen (pcta-1)	2	L78132								1

WO 00/40749								PC.	T/CA00/00005
		K02212		1 + 1	+ 1	+ 1	+ 1	+ 1	high in many libraries
protease inhibitor 1 (anti- lelastase), alpha-1- lantitrypsin (PI)	17	NUZZIZ			·				
protease inhibitor 2 (anti- elastase).	1	M93056				+		+	
monocyte/neutrophil (ELANH2) (low match)	3	L02426	В	1 +	+	$\dashv$	-	+	
proteasome (prosome, macropain) 26S subunit, ATPase, 1 (PSMC1)	3								
proteasome (prosome, macropain) 26S subunit, ATPase, 3 (PSMC3)		М34079	+	+	+	+		+	
proteasome (prosome, macropain) 26S subunit, ATPase, 4 (PSMC4)	2	AF020736							
proteasome (prosome, macropain) 26S subunit, ATPase, 5 (PSMC5)	5	L38810	+	+	+	+	+	+	
proteasome (prosome, macropain) 26S subunit, ATPase, 6 (PMSC6)	2	D78275	+	+	+	+		+	
proteasome (prosome, macropain) 26S subunit, non-ATPase, 11 (PSMD11)	1	AF001212	T	+			+		
proteasome (prosome, macropain) 26S subunit, non-ATPase, 2 (PSMD2)	2	D78151		+	+			+	
proteasome (prosome, macropain) 26S subunit, non-ATPase, 5 (PSMD5)		579862		+	+		+		high in many libraries
proteasome (prosome, macropain) 26S subunit, non-ATPase, 7 (Mov34 homolog) (PMSD7)	1	D50063		+	+	+		+	nigh in many libraries
proteasome (prosome, macropain) 26S subunit, on-ATPase, 12 (PMSD12)	1	AB003103		+	+	+		+	
proteasome (prosome, macropain) activator subunit 1 (PA28 alpha) (PSME1)	3	L07633	+	+	+	+		+	
proteasome (prosome, macropain) subunit, alpha type, 3 (PSMA3)	2	D00762		+	+	+		+	
proteasome (prosome, macropain) subunit, alpha type, 5 (PSMA5)	3	X61970	+	+	+			+	
proteasome (prosome, macropain) subunit, alpha type, 7 (PSMA7)	3	AF054185		+	+	+	+	+	
proteasome (prosome, macropain) subunit, alpha type, 7 (PSMA7) (low match)	1	AF022815							
proteasome (prosome, macropain) subunit, beta type, 1 (PSMB1)	1	D00761	+	+	+	+	+	+	
proteasome (prosome, macropain) subunit, beta type, 10 (PSMB10)	1	X71874	+	+		+	+	+	
proteasome (prosome, macropain) subunit, beta type, 6 (PMSB6)	1	D29012		+	+	+		+	
proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional protease 7) (PSMB8)	1	U17497	+	+	+	+		+	
proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional protease 2) (PSMB9)	3	Z14977	+			+		+	

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proteasome (prosome, macropain) subunit, beta ype, 7 (PSMB7)	1	D38048	+	+	+	+	+	+	,
protective protein for beta- galactosidase	3	M22960	+	+	+	+	+	+	
(galactosialidosis) (PPGB) protein A alternatively spliced form 2 (A-2)	<del>1</del>	U47925		+					
protein activator of the interferon-induced protein kinase (PACT)	1	AF072860		+	+	+		+	high in testis
protein disulfide isomerase- related protein (P5)	2	D49489	+	+	+	+	+	+	
protein geranylgeranyltransferase type I, beta subunit (PGGT1B)	1	L25441	+	+	+				
protein homologous to chicken B complex protein, guanine nucleotide binding (H12.3)	20	M24194	+	+	+	+	+	+	high in many libraries
protein kinase A anchoring protein	1	AF037439		+					
protein kinase C substrate 80K-H (PRKCSH)	2	U50317	+	+	+	+		+	
protein kinase C, beta 1 (PRKCB1)	6	X06318	+	+	+	+		+	
protein kinase C, delta (PRKCD)	1	D10495	+	+	+	+		+	
protein kinase C, eta (PRKCH)	1	M55284		<u> </u>	+			+	
protein kinase C, mu (PRKCM) (non-exact 78%)	1	X75756							
Protein kinase C-like 1 (PRKCL1)	2	D26181	+	+	+	+		+	
protein kinase, AMP- activated, gamma 1 non- catalytic subunit (PRKAG1)	1	U42412	B, T lymphoma	+	+				
protein kinase, cAMP- dependent, regulatory, type I, alpha (tissue specific extinguisher 1) (PRKAR1A)	4	M18468		+	+	+	+	+	
protein kinase, DNA- activated, catalytic polypeptide (PRKDC)	1	U47077		+	+		+	+	
protein kinase, mitogen- activated 1 (MAP kinase 1; p40, p41) (PRKM1)	1	Z11695	В	+			+		
protein kinase, mitogen- activated 6 (extracellular signal-regulated kinase, p97) (PRKM6)	1	L77964		+		+	+	+	
protein kinase, mitogen- activated, kinase 3 (MAP kinase kinase 3) (PRKMK3)	1	U66839	+	+	+	+	+		
protein phosphatase 1, catalytic subunit, alpha isoform (PPP1CA)	5	M63960	+	+	+	+	+	+	·
protein phosphatase 1, regulatory subunit 10 (PPR10)	3	Y13247		+	+	+		+	
protein phosphatase 1, regulatory subunit 7 (PPP1R7)	2	Z50749	+	+	+	+	+	+	
protein phosphatase 2 (formerly 2A), catalytic subunit, beta isoform (PPP2CB)	1	X12656	+	+	+	+	+	+	
protein phosphatase 2 (formerly 2A), regulatory subunit B" (PR 72), alpha isoform and (PR 130), beta isoform (PPP2R3)	1	L07590			+	+		+	
			30						

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protein phosphatase 2, regulatory subunit B (B56), alpha isoform (PPP2R5A)	2	L42373	+	+	+	+		+	, , , , , , , , , , , , , , , , , , ,
protein phosphatase 2, regulatory subunit B (B56), delta isoform (PPP2R5D)	3	D78360		+	+	+		+	
protein phosphatase 2, regulatory subunit B (B56), gamma isoform (PPP2R5C)	1	D26445	+	+	+	+		+	
protein phosphatase 2A regulatory subunit alpha- isotype (alpha-PR65)	5	J02902	+	+	+	+		+	
protein phosphatase 4 (formerly X), catalytic subunit (PPP4C)	2	AF097996	+	+	+	+		+	
protein tyrosine kinase 2 beta (PTK2B)	4	L49207		+		+		+	
protein tyrosine phosphatase epsilon	1	X54134				•			
protein tyrosine phosphatase type IVA, member 2 (PTP4A2)	2	L48723	+	+	+	+		+	
protein tyrosine phosphatase, non-receptor type 1 (PTPN1)	1	M31724	+	+	+	+			
protein tyrosine phosphatase, non-receptor type 12 (PTPN12)	1	M93425		+	+	+		+	high in testis
protein tyrosine phosphatase, non-receptor type 12 (PTPN12) (non- exact, 70%)		M93425							·
protein tyrosine phosphatase, non-receptor type 2 (PTPN2)	2	M25393		+	+	+		+	
protein tyrosine phosphatase, non-receptor type 4 (megakaryocyte) (PTPN4)	1	M68941			+	+		+	
protein tyrosine phosphatase, non-receptor type 6 (PTPN6)	7	M74903	+	+	+	+		+	
protein tyrosine phosphatase, non-receptor type 7 (PTPN7)	1	D11327	+			+		+	
protein tyrosine phosphatase, receptor type, alpha polypeptide (PTPRA)	1	M34668	+	+	+	+		+	~
protein tyrosine phosphatase, receptor type, c polypeptide (PTPRC)	44	Y00638	+	+		+		+	
protein tyrosine phosphatase, receptor type, M (PTPRM)	1	X58288		+	+	+		+	
protein tyrosine phosphatase, receptor type, N polypeptide 2 (PTPRN2)	2	U81561		+		+		+	
protein with polyglutamine repeat (ERPROT213-21)	1	U94836	+	+	+	+		+	
protein-kinase, interferon- inducible double stranded RNA dependent inhibitor (PRKRI)	1 ,	U28424		+	+	+	+	+	
protein-L-isoaspartate (D- aspartate) O- methyltransferase (PCMT1)	4	D13892	•	+	+				
proteoglycan 1, secretory granule (PRG1)	7	J03223		+		+		+	
prothymosin, alpha (gene sequence 28) (PTMA)	12	M14483	+	+	+	+	+	+	

prp28, U5 snRNP 100 kd protein (U5-100K)	7	AF026402	+	+	+	+		+	
PRP4/STK/WD splicing factor (HPRP4P)	1	AF001687		+	+	+		+	
PTK7 protein tyrosine kinase 7 (PTK7)	1	U40271		+	+	+	$\vdash$	+	
punnergic receptor P2X, ligand-gated ion channel, 4 (P2RX4)	3	AF000234		+	+	+		+	
purinergic receptor P2X, ligand-gated ion channel, 7 (P2RX7)	1	Y12851	+						macrophage only
puromyćin-sensitive aminopeptidase (PSA)	1	Y07701		+	+			+	
putative ATP(GTP)-binding protein	2	AJ010842		+				+	
putative brain nuclearly- targeted protein (KIAA0765)	1 "	AB018308	+	+	+	+		+	
putative chemokine receptor; GTP-binding protein (HM74)	1	D10923	+						
putative dienoyl-CoA isomerase (ECH1)	1	AF030249							
putative G-binding protein	1	AF065393				<b></b> -		-	
Putative human HLA class II associated protein I (PHAP1)	1	U73477	В	+			+		
Putative L-type neutral amino acid transporter (KIAA0436)	1	AB007896							
putative mitochondrial space protein 32.1	1	AF050198							
PUTATIVE MUCIN CORE PROTEIN PRECURSOR 24 (MULTI- GLYCOSYLATED CORE PROTEIN 24) (MGC-24) (MUC-24)	1	Q04900							
putative nucleic acid binding protein	2	X76302	+	+	+	+		+	
putative outer mitochondrial membrane 34 kDa translocase Htom34	1	U58970		+	+	+		+	
putative p150 (non-exact 88%)	1	U93568							
putative translation initiation factor (SUI1)	1	L26247	+	+	+	+	+	+	High in moderately differentiated colon adenocarcinoma
putative tumor suppressor protein (123F2)	1	AF061836		+	+	+		+	
pyrroline 5-carboxylate reductase	1	M77836	+	+	+	+		+	
pyruvate dehydrogenase (lipoamide) alpha 1 (PDHA1)	1	D90084		+	+	+	+	+	
pyruvaté dehydrogenase (lipoamide) beta (PDHB)	2	J03576	+	+	+	+		+	
Pyruvate dehydrogenase complex, lipoyl-containing component X; E3-binding protein (PDX1)	3	Y13145		+	+				
pyruvate kinase, muscle (PKM2)	11	M23725					+		
RAB, member of RAS oncogene family-like (RABL)	1	U18420		+	+	+		+	
RAB1, member RAS oncogene family (RAB1)	3	M28209		+	+	+		+	
RAB11A, member RAS oncogene family (RAB11A)	2	X56740	+	+	+	+		+	high in spleen

								•	CITCHOUNGUE
RAB11B, member RAS oncogene family (Rab11B)	1	D45418		+				+	"
RAB27A, member RAS oncogene family (RAB27A)	3	U38654				+			
RAB5B, member RAS oncogene family (RAB5B)	1	X54871		+	+	+	<del>                                     </del>	+	
RAB6, member RAS	1	M28212		+	-	$\vdash$	-	+	
RAB7, member RAS	1	X93499	+	+	+	+	├	+	-
oncogene family (RAB7) RAB7, member RAS	2	D84488		+	+	+	├	+	
oncogene family-like 1 (RAB7L1)									
RAB9, member RAS oncogene family (RAB9)	1	U44103							
RAD50 (S. cerevisiae) homolog (RAD50)	2	U63139		+	+	+	$\vdash$	1	
RAD51 (S. cerevisiae) homolog C (RAD51C)	1	AF029669	<u> </u>	+	+	+		+	
Radin blood group (RD)	2	L03411		+	+	+	<del>                                     </del>	+	
RAE1 (RNA export 1, S.pombe) homolog (RAE1)	3	U84720	+	+	+	+	_	+	
ralA-binding protein	2	L42542	+	+	+	+	ļ		
(RLIP76)	2		,		•	Ľ			
RAN binding protein 2-like 1 (RANBP2L1)		AF012086							
Ran GTPase activating protein 1 (RANGAP1)	3	X82260	+	+	+	+		+	
RAN, member RAS oncogene family (RAN)	1	M31469							
(low match) RanBP2 (Ran-binding	1	D42063				<del> </del>		<del> </del>	
protein 2) (=U19248; L41840 sapiens									
nucleoporin (NUP358))						<u> </u>		<u> </u>	
ransforming growth factor, beta receptor II (70-80kD) (TGFBR2)	4	D50683	+	†	+	+		+	
RAP1A, member of RAS oncogene family (RAP1A)	10	M22995	+	+	+	+	+	+	
RAR-related orphan receptor C (RORC)	1	U16997						+	
RAS guanyl releasing protein 2 (calcium and	1	Y12336	+	+					
DAG-regulated) ras homolog gene family,	12	X05026	+		+		+		high in even
member A (ARHA)						+	_	+	high in ovary
ras homolog gene family, member G (rho G) (ARHG)	1	X61587	+	+	+	+			
ras homolog gene family, member H (ARHH)	2	Z35227	+	+	+			+	
ras inhibitor (RIN1)	2	M37191		+					
Ras-GTPase activating protein SH3 domain- binding protein 2 (KIAA0660)	2	AF053535	+	+	+	+		+	
Ras-GTPase-activating protein SH3-domain- binding protein (G3BP)	3	U32519	+	+	+	+		+	
ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2) (RAC2)	11	M29871			+			+	
RAS-RELATED PROTEIN RAP-1B (GTP-BINDING PROTEIN SMG P21B)	1	P09526							
RBQ-1	1	X85133		+	+	+			
rearranged T cell receptor beta variable region (TCRB) (=X58810)	1	L06891							
regulator of Fas-induced apoptosis (TOSO)	1	AF057557	В				+		

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regulator of G protein signalling 6 (RGS6)	1	AF073920		+			Ì		1.
regulator of G-protein signalling 14 (RGS14)	2	AF037195	+	+	+	+			
regulator of G-protein	6	L13391	+	+	+	+		+	
signalling 2, 24kD (RGS2) regulator of G-protein signalling 5 (RGS5) (49%	1	O15539							
aa) regulatory factor X, 4	1	M69297			+	+			
(influences HLA class II expression) (RFX4)								_	
regulatory factor X, 5 (influences HLA class II expression (RFX5)	2	X85786	Т	+	+			+	
replication protein A1 (RPA1)	1	M63488	+	+	+	+		+	
replication protein A3 (14kD) (RPA3) (low match)	1	L07493							
reproduction 8 (D8S2298E)	1	D83767		+	+	+			
requiem, apoptosis response zinc finger gene (REQ)	2	U94585	+	+	+	+		+	
requiem, apoptosis response zinc finger gene (REQ) (=AF001433) (low match)	1	U94585							
restin (Reed-Steinberg cell- expressed intermediate filament-associated protein) (RSN)	1	M97501	В, Т	+	+				
retinoblastoma 1 (including osteosarcoma) (RB1)	3	L11910	+	+	+	+			
retinoblastoma binding protein 2 homolog 1 (RBBP2H1)	1	AF087481							
retinoblastoma-binding protein 1 (RBBP1)	1	S66427	+	+					
retinoblastoma-binding protein 2 (RBBP2)	5	S66431	+	+	+	+		+	
retinoblastoma-binding protein 4 (RBBP4)	1	X71810		+	+	+		+	
retinoblastoma-binding protein 4 (RBBP4)	1	X74262		+	+	+		+	
retinoblastoma-binding protein 7 (RBBP7)	1	U35143							
retinoblastoma-like 2 (p130) (RBL2)	1	X76061		+	+	+		+	
retinoic acid receptor responder (tazarotene induced) 3 (RARRES3)	1	AF060228		+		+	+	+	
retinoic acid receptor, alpha (RARA)	1	X06538	+	+		+			
retinoic acid responsive (NN8-4AG)	1	U50383		+		+		+	
retinoid X receptor beta (RXR-beta)	2	X66424		+	+	+		+	
REV3 (yeast homolog)-like, catalytic subunit of DNA polymerase zeta (REV3L)		AF035537							
Rho GDP dissociation inhibitor (GDI) beta (ARHGDIB)	23	L07916	+	+	+	+	+	+	
Rho GTPase activating protein 4 (ARHGAP4)	2	X78817	+	+					
Rho GTPase activating protein 4 (ARHGAP4) (low match)	1	P98171							
Rho-associated, coiled-coil containing protein kinase 2 (ROCK2)		AB014519							
ribonuclease 6 precursor (RNASE6PL)	2	U85625	+	+		+	+		
			2.4						

nbonuclease 6 precursor	1	U85625	T	1	г	Т	ī	Т	· · · · · · · · · · · · · · · · · · ·
(RNASE6PL) (low match) ribonuclease, RNase A					<u></u>	<u> </u>		1	
family, 2 (liver, eosinophil- derived neurotoxin) (RNASE2)	'	X55988					+		
nbonuclease/angiogenin inhibitor (RNH)	3	M36717	+	+	+	+		+	
ribonucleoside diphosphate reductase M1 subunit	1	X65708		<b>†</b>					
ribonucleotide reductase M2 polypeptide (non-exact 91%)	1	P31350							
ribophorin I (RPN1)	1	Y00281	+	+	+	+	_	+	
ribophorin II (RPN2)	1	Y00282	+	+	+	+	+	+	
ribosomal 18S rRNA	3	M10098							
ribosomal 28S RNA	1	M11167							
ribosomal phosphoprotein P0, 5'UTR (low match) Ribosomal protein	1	D28418							
ribosomal protein L10	30	1.35800	ļ	<u> </u>		L_		L.	
(RPL10) RIBOSOMAL PROTEIN		L25899	+	+	+	+	+	+	high in many libraries
L10A (CSA-19)	2	P53025							
ribosomal protein L11 (RPL11) ribosomal protein L12	4	X79234	+	+	+	+	+	+	Alveolar rhabdomyosarcoma
(RPL19)	2	L06505	+	+	+	+	+	+	
ribosomal protein L13 (PRL13)	1	P26373	+	+	+	+	+	+	high in many libraries
ribosomal protein L14 (RPL14)	4	D87735	+	+	+	+	+	+	high in many libraries
ribosomal protein L17 (RPL17)	4	X53777	+						blood only
ribosomal protein L18 (RPL18)	10	L11566	+	+	+	+		+	
ribosomal protein L18a (RPL18A)	5	L05093		+	+	+	+	+	High in fetal adrenal gland and skin
ribosomal protein L18a homologue	2	X80821				+			
ribosomal protein L19 (RPL19)	15	X63527	+	+	+	+	+	+	
ribosomal protein L21 (RPL21)	6	U14967	+	+	+	+	+	+	·
ribosomal protein L22 (RPL22)	3	D17652	+	+	+	+		+	
ribosomal protein L23 (RPL23)	2	X55954	+	+	+	+	+	+	high in many libraries
ribosomal protein L23a (RPL23A)	5	U37230	+	+	+	+	+	+	high in many libraries
ribosomal protein L26 (RPL26)	8	X69392	+	+	+	+	+	+	
ribosomal protein L27 (RPL27)	6	L05094	+	+	+	+		+	
ribosomal protein L27a (RPL27A)	10	U14968	+	+	+	+	+	+	
ribosomal protein L28 (RPL28)	6	U14969	+	+	+	+		+	
ribosomal protein L29 (RPL29)	6	U10248	. +	+	+	+	+	+	
ribosomal protein L3 (RPL3)	81		+	+	+	+	+	+	high in many libraries
nbosomal protein L3 homologue	81	X06323							
ribosomal protein L30 (RPL30)	6	X79238	+ .	+	+	+	+	+	high in lymphoma
ribosomal protein L30 (RPL30) (low score)	1	X79238							
ribosomal protein L31 (RPL31)	10	X15940	+	+	+	+	+	+	High in alveolar rhabdomyosarcoma

ribosomal protein L32 (RPL32)	3	X03342	+	+	+	+	+	+	
ribosomal protein L33-like (RPL33L)	1	AF047440		+	+	+		+	
ribosomal protein L34 (RPL34)	5	L38941		+	+	+	+	+	
ribosomal protein L34 (RPL34) (low match)	1	L38941				<del>                                     </del>			
ribosomal protein L37 (RPL37)	5	D23661	+	+	+	+	+	+	high in barstead prostate
ribosomal protein L37a	4	X66699	+	+	+	+	+	+	high in many libraries
ribosomal protein L38 (PRL38)	1	Z26876	+	+	+	+	+	+	high in many libraries
ribosomal protein L4 (RPL4)	27	D23660	+	+	+	+	+	+	high in many libraries
ribosomal protein L41 (RPL41)	4	AF026844	+	+	+	+	+	+	high in many libraries
ribosomal protein L5 (RPL5)	14	U14966	+	+	+	+	+	+	High in alveolar rhabdomyosarcoma
ribosomal protein L5 (RPL5) (low match)	1	U14966							
ribosomal protein L6 (RPL6)	7	X69391	+	+	+	+	+	+	high in many libraries
ribosomal protein L7 (RPL7)	14	X52967	+	+	+	+	+	+	high in conorm
ribosomal protein L7a (RPL7A)	15	M36072	+	+	+	+	+	+	High in uterus, and seminoma
ribosomal protein L8 (RPL8)	5	Z28407	+	+	+	+	+	+	high in ovary
ribosomal protein L9 (RPL9)	10	U09953		+	+	+	+	+	
ribosomal protein S10 (RPS10)	5	U14972	+	+	+	+	+	+	high in many libraries
ribosomal protein S11 (RPS11)	4	X06617	+	+	+	+	+	+	high in many libraries
ribosomal protein S11 (RPS11) (low match)	1	AB007152							·
ribosomal protein S12 (RPS12)	3	X53505	+	+	+	+	+	+	high in many libraries
ribosomal protein S13 (RPS13)	2	L01124		+	+	+	+	+	
ribosomal protein S14 (RPS14)	12	M13934	+	+	+	+	+	+	
ribosomal protein S15 (RPS15)	2	M32405	+	+	+	+	+	+	
ribosomal protein S16 (RPS16)	3	M60854	+	+	+	+	+	+	High in prostate invasive tumor
ribosomal protein S17 (RPS17)	2	M13932	+	+	+	+	+	+	high in many libraries
ribosomal protein S18	8	X69150							
ribosomal protein S19 (RPS19)	7	M81757	+	+	+	+	+	+	high in many libraries
ribosomal protein S2 (RPS2)	4	X17206	+	+	+	+	+	+	high in many libraries
RIBOSOMAL PROTEIN S2 (RPS4)	2	P15880							
ribosomal protein S20 (RPS20)	7	L06498	+	+	+	+	+	+	high in many libraries
ribosomal protein S21 (RPS21)	3	L04483	+	+	+	+	+	+	high in CD34+/CD38- hematopoietic cells and skin tumor
ribosomal protein S23 (RPS23)	3	D14530		+	+	+		+	
ribosomal protein S24 (RPS24)	7	M31520	+	+	+	+	+	+	high in uterus
ribosomal protein S25 (RPS25)	3	M64716	+	+	+	+	+	+	high in barstead prostate
ribosomal protein S26 (RPS26)	2	X69654		+	+	+	+	+	
ribosomal protein S27 ((metallopanstimulin 1) (RPS27)	5	U57847	+	+	+	+	+	+	
<del></del>		•							·

## PCT/CA00/00005

(RPS28)	3	U58682	+	+	+	+		+	
ribosomal protein S29 (RPS29)	2	U14973	+	+	+	+	+	+	
nbosomal protein S3 (RPS3)	9	X55715	+	+	+	+	+	+	high in many libraries
ribosomal protein S3 (RPS3) (low match)	1	U14990							
ribosomal protein S3A (RPS3A)	21	Z83334		+	+	+	+	+	high in many libraries
ribosomal protein S3A (RPS3A) (low score)	1	M77234							
ribosomal protein S4, X- linked (RPS4X)	9	M58458	+	+	+	+		+	high in ovary and Synovial sarcoma
ribosomal protein S4, Y- linked (RPS4Y)	2	M58459	+	+	+	+	+	1	
ribosomal protein S5 (RPS5)	4	U14970	+	+	+	+	+	+	high in lymphoma
RIBOSOMAL PROTEIN S6 (PHOSPHOPROTEIN NP33)		P10660							
ribosomal protein S6 (RPS6)	22	M20020	+	+	+	+	+	+	
ribosomal protein S6 (RPS6) (non-exact 86%)	1	M77232							
ribosomal protein S6 kinase, 90kD, polypeptide 1 (RPS6KA1)	3	L07597	+	+	+	+		+	
ribosomal protein S6 kinase, 90kD, polypeptide 2 (RPS6KA2)	1	X85106							
ribosomal protein S7 (RPS7)	4	Z25749		+	+	+	+	+	
ribosomal protein S8 (RPS8)	6	X67247		+	+	+	+	+	
ribosomal protein S9 (RPS9)	8	U14971							colon tumor
nbosomal protein, large, P0 (RPLP0)		M17885			+			+	·
ribosomal protein, large, P1 (RPLP1)		M17886	T	+	+		+		
ribosomal RNA 185 (=M10098; K03432) (=polyadenylating sequence)	11	X03205							
ribosomal RNA 28S	2	M11167			<del>                                     </del>	-		_	<u> </u>
ribosomal RNA, 16S	1	U25123	<del> </del>	+-	┼	-			
ring finger protein (non- exact 58%)	1	AJ001019		<del> </del>	ļ <u> </u>	-			
ring finger protein 3 (RNF3)	1	AJ001019		-	-				
ring finger protein 4 (RNF4)	3	AB000468		+	+	+	_	+	ļi
ring zinc-finger protein (ZNF127-Xp)	3	U41315		+	+	+		+	
RNA (guanine-7-) methyltransferase (RNMT)	1	AB007858		+	+	+		+	
RNA binding motif protein 5 (RBM5)	4	U23946	+	+	+	+	_	+	
RNA binding motif, single stranded interacting protein 2 (RBMS2)	1	D28483		+		+		+	
RNA helicase (putative), (Myc-regulated DEAD box protein) (MRD8)	1	X98743	+	+	+	+		+	
RNA helicase-related protein	1	AF083255		+	+	+		+	
RNA pol II largest subunit	2	X74872							
RNA polymerase I subunit (RPA40)	1	AF008442		+	+			+	
RTVP-1 protein	2	X91911	+	+	+	+		+	
		<del></del>							

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S100 calcium-binding	2	M81457			+		+	+	,
protein A10 (annexin II								l	
ligand, calpactin I, light								l	l i
polypeptide (p11)) (S100A10)									! !
S100 calcium-binding	7	X80201		+	+	+		+	<del>                      </del>
protein A11 (calgizzarin)	•	/ // /						ŀ	
(S100A11)									
S100 calcium-binding	3	M80563	В		+		+		
protein A4 (calcium protein,				]		i i			1 1
calvasculin, metastasin,								l	j
murine placental						1		į	
homolog)(S100A4)	<del></del>	M21005		-	+	+		+	high in bone marrow
S100 calcium-binding protein A8 (calgranulin A)	,	1912 1005			<b>T</b>	T .		*	migri in bone manow
(S100A8)							ł		
S100 calcium-binding	14	X06233			+	+		$\vdash$	high in invasive
protein A9 (calgranulin B)								1	larynx squamous cell
(S100A9)				1					carcinoma
S164 gene	1	AF109907							
S-adenosylmethionine	3	M88003	+	+	+	+	$\vdash$	+	
decarboxylase 1 (AMD1)	_						ŀ		į l
SB classII	5	M27487	+	+	+	+		+	
histocompatibility antigen							l		<b>{</b>
alpha-chain						<u> </u>			
SC35-interacting protein 1	5	AF030234	+	+	+	+	+	+	
(SRRP129)		1777755	+	+	+	+	<u> </u>	+	
scaffold attachment factor B (SAFB)	1	U72355	+	*	*	T	l	_	
scaffold attachment factor	1	U72355		+	-	-	-	┢	
B (SAFB) (non-exact 78%)	1	072555							
scRNA molecule.	1	L13713		+		<del> </del>	<u> </u>	_	
transcribed from Alu repeat	·	3.3.		1		1	1	1	
SEC14 (S. cerevisiae)-like	4	D67029		+	+	+		+	
(SEC14L)									
SEC23-like protein B	2	X97065	+	+	+	+		+	
(SEC23B)									
SEC63 (SEC63)	1	AF100141		+	+			+	
secreted protein, acidic,	7	M25746		+	+	+	+	+	high in bone marrow
cysteine-rich (osteonectin)				1		1	1	1	stroma
(SPARC)						<u>Ļ</u>		╙	
secretory carrier	1	AF038966		+		+	İ	l	!
membrane protein 1 (SCAMP1)				1				1	
secretory carrier	1	AF005038	+	+	+	+	+	+	
membrane protein 2	'	A. 000000	•	'		`	-	`	
(SCAMP2)								1	
secretory carrier	1	AF005039				1			
membrane protein 3					Ì			1	
(SCAMP3)									19
secretory granule	1	M33649			i _	1	1		
proteoglycan core (clones							[	I	
lambda-PG[6,7,8]) selectin L (lymphocyte	43	X17519	+	<del> </del>	<del> </del>	+	├	+	<del> </del>
adhesion molecule 1)	43	71/218	<b>T</b>			•		'	
(SELL)				1	ł		1		
selectin P ligand (SELPLG)	13	U02297	+	+	<del> </del>	<del>                                     </del>		<del>                                     </del>	
sema domain.	2	U60800		++	<del> </del>	+	<del> </del>	+	ļ
immunoglobulin domain	-	000000		1		1	[	*	
(lg), transmembrane						1		1	
domain (TM) and short									
cvtoplasmic domain.	ļ			1	ł	}	1		1
(semaphorin) 4D					1	1.	ł	1	
(SEMA4D)	<u> </u>			1		<u> </u>		<u> </u>	
Ser/Arg-related nuclear	4	AF048977		+	+	+	+	+	
matrix protein (plenty of prolines 101-like)				Ì		1	1	1	
(SRM160)						1	1	l	
serine palmitoyltransferase	1 1	Y08685		+	+	+	<del>                                     </del>	+	
subunit I (SPTI)	i .	.55555		1	1		1	1	
serine palmitoyltransferase,	1	AB011098	+	+	+	+	1	+	<u>                                     </u>
subunit II (LCB2)	1				L	L		<u>L</u>	
				_ 4			_		

serine protease	1	J02907		1	Γ				9
serine protease inhibitor, Kunitz type, 2 (SPINT2)	1	U78095	+	+	+	+		+	
serine/threonine kinase 10 (STK10)	1	AB015718	+	+	+	+	ļ	+	
serine/threonine kinase 19 (STK19)	1	L26260	+,	+	+	+			
serine/threonine kinase 4	1	U18297		+		<del>                                     </del>	$\vdash$	+	· · · · · · · · · · · · · · · · · · ·
(STK4) serine/threonine protein	1	X66358		+	+	+		+	
kinase KKIALRE (KKIALRE)			·						
serine/threonine protein- kinase (NIK)	1	Y10256		+	+	+	١.		
SERINE/THREONINE- PROTEIN KINASE RECEPTOR R3 PRECURSOR (SKR3)	1	P37023							
serologically defined colon cancer antigen 16 (NY-CO- 16)	2	AF039694							
serologically defined colon cancer antigen 33 (SDCCAG33)	1	AF039698	В, Т	+	+		+		
serologically defined colon cancer antigen 33 (SDCCAG33) (low score)	1	AF039698		-					
serologically defined colon cancer antigen 33 (SDCCAG33) (low score)	1	AF039698							
serum deprivation response (phosphatidylserine-binding protein) (SDPR) (=\$67386)	1	AF085481.1							
serum/glucocorticoid regulated kinase (SGK)	2	Y10032	+	+	+	+		+	
SET domain, bifurcated 1 (SETDB1)	2	D31891	+	+	+			+	
SH2 domain protein 1A, Duncan's disease lymphoproliferative syndrome) (SH2D1A)	1	AF073019	,					+	
SH3 binding protein (SAB)	2	AB005047	+	+	+	+		+	
SH3 domain protein 1B (SH3D1B)	4	U61167	+			+		+	
SH3BGR PROTEIN (=21- GLUTAMIC ACID-RICH PROTEIN;21-GARP) (non- exact 82%aa)	1	P55822							
SH3-binding domain glutamic acid-rich protein like (SH3BGRL)	1 -	AF042081	+	+	+	+		+	
SH3-domain GRB2-like 1 (SH3GL1)	1	U65999	+	+	+	+		+	
SHC (Src homology 2 domain-containing) transforming protein 1 (SHC1)	2	X68148		+	+	+		+	
siah binding protein 1 (SiahBP1)	2	U51586		+	+	+		+	
siah binding protein 1 (SiahBP1) (non-exact, 69%)	r	U51586							
Sialomucin CD164 (CD164)	9	D14043					•		
sialophorin (gpL115, leukosialin, CD43) (SNP)	2	J04536							
sialyltransferase (STHM)	T	U14550		1	+	+		+	
sialyltransferase 1 (beta- galactoside alpha-2,6- sialytransferase) (SIAT1)	2	X17247	+	+	+	+	+	+	

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sialyltransferase 4A (beta- galactosidase alpha-2,3- sialytransferase) (SIAT4A)	1	AF059321	В	+	+		+	+	6	7
sialyltransferase 8 (alpha- 2, 8-polysialytransferase) D (SIAT8D)	1	L41680		+						1
signal peptidase 25kDa	1	L38950		-						1
signal recognition particle 14kD (homologous Alu RNA-binding protein) (SRP14)	1	X73459	+	+	+	+	+	+		
signal recognition particle 54kD (SRP54)	1	U51920			+	+		+		brack
signal recognition particle 9kD (SRP9)	2	U20998		+	+	+	+	+		
signal recognition particle receptor ('docking protein') SRPR	5	X06272								
signal regulatory protein, beta, 1 (SIRP-BETA-1)	5	Y10376		+				+		
signal sequence receptor, alpha (translocon- associated protein alpha) (SSR1)	2	Z12830				+		+		
signal sequence receptor, beta (translocon- associated protein beta) (SSR2)	2	X74104	+	+	+	+		+		
signal transducer and activator of transcription (STAT5A)	4	L41142	+	+	+	+	+	+		
signal transducer and activator of transcription 2, 113KD (STAT2)	1	U18671						+		
signal transducer and activator of transcription 3 (acute-phase response factor) (STAT3)	3	L29277							·	
signal transducer and activator of transcription 5A (STAT5A)	2	U48730	+	+	+	+	+	+		
signal transducing adaptor molecule (SH3 domain and ITAM motif) 1 (STAM)	1	U43899								
silencing mediator of retinoid and thyroid hormone action (SMRT)	1	U37146								
similar to beta-transducin superfamily proteins (SAZD)	1	U02609	+	+	+	_		+		
similar to S. cerevisiae SSM4 (TEB4)	1	AB011169		+	+	+		+		_
similar to yeast pre-mRNA splicing factors, Prp1/Zer1 and Prp6	1	AF026031	+	+	+	+		•		
SIT protein	1	AJ010059.1								_
Sjogren syndrome antigen A1 (52kD, ribonucleoprotein autoantigen SS-A/Ro) (SSA1)	2	M62800					+			
Sjogren syndrome antigen A1 (52kD, ribonucleoprotein autoantigen SS-A/Ro)	1	M62800								
(SSA1) (non-exact 63%) (match to zinc finger)		1081886		<u> </u>		<u> </u>	_			
SKAP55 homologue (SKAP-HOM)	1	AJ004886	<u> </u>	+	+	+	_	+		
skb1 (S. pombe) homolog (SKB1)	2	AF015913	+	+	+	+				

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skeletal muscle abundant protein	1	X87613	+	+	+	+		+	,
SMA3 (SMA3)	1	X83300	+	+		+	1	+	<del> </del>
small acidic protein	3	U51678	+	+	+	+	<del>† .</del>	+	
small EDRK-rich factor 2 (SERF2)	2	Y10351	+	+	+	+	+	+	high in fetal lung
small inducible cytokine A5 (RANTES) (SCYA5)	2	M21121	+	+	+	+	+	+	high in many libraries
small inducible cytokine subfamily C, member 2 (SCYC2)	1	D63789							
small nuclear ribonucleoprotein polypeptide B" (SNRPB2)	2	M15841		+	+	+		+	
small nuclear ribonucleoprotein polypeptide N (SNRPN)	4	J04815	+	+	+	+	+	+	
small nuclear ribonucleoprotein polypeptides 8 and 81 (SNRPB)	2	J04564	+	+	+	+		+	
small nuclear RNA activating complex, polypeptide 5, 19kD (SNAPC5)	1	AF093593	+	+	+	+		+	
smallest subunit of ubiquinol-cytochrome c reductase	1	D55636	+	+	+	+	+	+	high in fetal lung
SMC (mouse) homolog, X chromosome (SMCX)	1	L25270	+	+	+	+		+	
SMT3B protein (2)	2	X99585	+	+	+	+	+	+	
SNARE protein (YKT8)	1	U95735			-			_	
SNC19		U20428				<u> </u>		<u> </u>	ļ
SNC73 protein (SNC73)	2	J00220	<del> </del>	+		+	+	+	high in many libraries
solute carrier family 1		U53347	<u> </u>	+		+		+	riigii iii many iibianes
(neutral amino acid transporter), member 5 (SLC1A5)	_	033347		T		7		*	•
Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1 (SLC11A1)	7	D50403	+						
solute carner family 17 (sodium phosphate), member 3 (SLC17A3)	1	U90545				+			
solute carrier family 19 (folate transporter), member 1 (SLC19A1)	1	U17566	B, lymphoma	+			+	-	
solute carrier family 2 (facilitated glucose transporter), member 1 (SLC2A1)	1	K03195	+	+	+	+	+	+	
solute carrier family 23 (nucleobase transporters), member 2 (SLC23A2)	3	D87075		+	+	+		+	
solute carrier family 25 (mitochondrial carrier, oxoglutarate carrier), member 11 (SLC25A11)	7	AF070548	В, Т	+	+		+	+	
solute carrier family 31 (copper transporters), member 2 (SLC31A2)	3	U83461		+		+			
solute carrier family 4, anion exchanger, member 2 (erythrocyte membrane protein band 3-like 1) (SLC4A2)	1	X62137		+	+			+	
solute carrier family 4, sodium bicarbonate cotransporter, member 8 (SLC4A8)	1	AB018282		+					

								•	C1/CA00/00003
solute carrier family 7 (cationic amino acid	2	M80244	T, W	+	+		+		
transporter, y+ system), member 5 (SLC7A5)			ļ		ĺ	ĺ			
solute carrier family 7	3	D87432	+	+	+	+	┼─	+	
(cationic amino acid transporter, y+ system),									İ
member 6 (SLC7A8) solute carrier family 7	<u> </u>	0.07499			L.	<del> </del>	<u> </u>	<u> </u>	
(cationic amino acid	1	D87432						Ì	]
transporter, y+ system), member 6 (SLC7A6) (non-								ļ	
exact 77%)									}
solute carrier family 9 (sodium/hydrogen	1	AF030409		+	+	+	$\vdash$	+	
exchanger), isoform 6					İ	l	ļ		
(SLC9A6)		1		<u> </u>					
(HCS)	2	M22877		1					
SON DNA binding protein (SON)	2	X63753		+	+	+		+	
son of sevenless	1	L13858	+	+		+			
(Drosophila) homolog 1 (SOS1)								ŀ	
sorcin (SRI)	1	M32886				<u> </u>		_	
sortilin 1 (SORT1)	2	X98248		+		+		+	
sortilin-related receptor, L(DLR class) A repeats-	6	Y08110							·
containing (SORL1)								_	
sorting nexin 1 (SNX1)	3	U53225	+	+	+	+		+	
sorting nexin 2 (SNX2)	2	AF043453							
sorting nexin 6 (SNX6) (=U83194.1 TRAF4- associated factor 2)	1	AF121856.1							
Sp3 transcription factor	1	X68560	+	+	+	+	_	+	
(SP3) Sp3 transcription factor	4	M97191	+	+	+	+		+	
(SP3) special AT-rich sequence	1	M97287							
binding protein 1 (binds to	,								
nuclear matrix/scaffold- associating DNA's)									
(SATB1)									
speckle-type POZ protein (SPOP)	4 \	AJ000644							
speckle-type POZ protein (SPOP) (non-exact)	1	AJ000644							
spectrin SH3 domain binding protein 1	6	U87166	+	+	+	+			
(SSH3BP1)									
Spectrin, alpha, non- erythrocytic 1 (alpha-fodrin)	2	J05243		+	+			+	
(SPTAN1)									
spermidine/spermine N1- acetyltransferase (SAT)	11	M55580		1 1			ŀ		
spermidine/spermine N1-	1	U40369					$\dashv$		
acetyltransferase (SAT) (non-exact, 84%)									
spermine synthase (SMS)		AD001528	+	+ 1	+	+	$\neg$	+	
SPF31 (SPF31)	1	AF083190	+	+	+	7		+	
sphingomyelin phosphodiesterase 1, acid	1	X52679	· · · ·	+	+		+		
llysosomal (acid					ł	i		ĺ	
sphingomyelinase) (SMPD1)					İ	ļ			
SPINDLÍN HOMOLOG	1	Q99865	<u> </u>	<del>  -  </del>	-		$\dashv$		
(PROTEIN DXF34) spinocerebellar ataxia 1	3	X79204	В			_	_		
(olivopontocerebellar ataxia)	, j	A19204	ט				+	Ī	
1, autosomal dominant, ataxin 1) (SCA1)								}	İ

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spinocerebellar ataxia 2 (olivopontocerebellar ataxia 2, autosomal dominant,	1	U70323	В				+		
ataxin 2) (SCA2) spinocerebellar ataxia 7 (olivopontocerebellar	2	AJ000517		+					
atrophy with retinal degeneration) (SCA7) spliceosome associated	3	U41371		+	+	+	+	+	
protein (SAP 145)	<u> </u>								
splicing factor (CC1.3) (CC1.3)	2	L10910	+	+	+	+	+	+	
splicing factor SRp40-1 (SRp40)	7	U30826	+	+	+	+	+	+	
splicing factor, arginine/serine-rich 11 (SFRS11)	3	M74002	В	+	+		+	+	
splicing factor, arginine/serine-rich 7 (35kD) (SFRS7)	4	L41887		+	+	+		+	
Src-like adapter protein (non-exact, 76%aa)	1	U30473	*						
Src-like-adapter (SLA)	6	D89077		+	+	+		+	
Src-like-adapter (SLA) (low match)	1	D89077							
Src-like-adapter (SLA) (low score)	1	U44403							
stannin (SNN)	2	AF030196	+	+	+	+		+	
STAT induced STAT inhibitor 3 (SSI-3)	7	AB004904				+			
STE20-like kinase 3 (MST-3)	2	AF024636	+	+	+	+		+	
step II splicing factor SLU7 (SLU7)	1	AF101074		+		+	+	+	
steroid sulfatase	1	M17591							
steroid sulfatase (microsomal), arylsulfatase C, isozyme S (STS)	1	J04964		+	+	+			·
sterol carrier protein 2 (SCP2)	1	M55421		+	+	+	+	+	
sterol O-acyltransferase (acyl-Coenzyme A: cholesterol acyltransferase) 1 (SOAT1)	1	AF059202		:			+		
stimulated trans-acting factor (50 kDa) (STAF50)	6	X82200	+	+		+			
Striatin, calmodulin-binding protein (STRN) (low match, 71%aa)	1	U17989							
Stromal antigen 2 (STAG2)	2	Z75331		<del> </del>	+	+	+	+	
stromal interaction molecule 1 (STIM1)	3	U52426	+	+	+	+		+	
structure specific recognition protein 1 (SSRP1)	1	M86737		+	+	+		+	
succinate dehydrogenase complex, subunit A, flavoprotein (Fp) (SDHA)	5	L21936			+				
succinate dehydrogenase complex, subunit B, iron sulfur (lp) (SDHB)	1	U17248	+	+	+	+		+	
succinate dehydrogenase complex, subunit C, integral membrane protein, 15kD (SDHC)	1	U57877	+	+	+	+	·	+	
succinate dehydrogenase complex, subunit D, Integral membrane protein (SDHD)	3	AB006202		+	+		+		
succinate-CoA ligase, GDP-forming, beta subunit (SUCLG2)	•	AF058954		+	+	+	+	+	

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succinyl CoA synthetase	1	Z68204							1.
sudD (suppressor of bimD6, Aspergillus nidulans) homolog (SUDD)	2	AF013591		+			+	+	
sulfotransferase family 1A, phenol-preferring, member	1	L19999	- · · · · -	+			+	+	
1 (SULT1A1) sulfotransferase family 1A, phenol-preferring, member 3 (SULT1A3) (non-exact 67%)	1	U37686							
superoxide dismutase 1, soluble (amyotrophic lateral sclerosis 1 (adult)) (SOD1)	4	X02317		+	+		+	+	
superoxide dismutase 2, mitochondrial (SOD2)	5	Y00985		+	+	+	+	+	
supervillin (SVIL)	2	AF051851			+	+		+	
suppression of tumorigenicity 5 (ST5)	2	U15131	<del></del>	+		+		+	
suppression of tumorigenicity 5 (ST5) (non-exact 82%)	1	U15779							
suppressor of K+ transport defect 1 (SKD1)	1	AF038960			+	+			
suppressor of Ty (S.cerevisiae) 3 homolog (SUPT3H)	1	AF064804	+	+	+	+		+	
suppressor of Ty (S.cerevisiae) 4 homolog 1 (SUPT4H1)	2	U38817	+	+	+	+		+	
suppressor of Ty (S.cerevisiae) 5 homolog (SUPT5H)	2	U56402		+				+	·
suppressor of Ty (S.cerevisiae) 6 homolog (SUPT6H)	2	U46691	+	+	+	+	+	+	
suppressor of variegation 3-9 (Drosophila) homolog 1 (SUV39H1)	1	AF019968		+	+	+			
survival of motor neuron 1, telomeric (SMN1)	1	U18423							
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 1 (SMARCA1) (non-exact, 75%)	1	M88163			+	+		+	
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2 (SMARCA2)	2	D26155		+					
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4 (SMARCA4)	1	D26156	+	+	+	+	+	+	
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily c, member 2 (SMARCC2)	4	U66616	+	+	+	+	+	+	
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily e, member 1 (SMARCE1)	2	AF035262	B, W	+	+		+	+	
synaptobrevin-like 1 (SYBL1)	1	X95803		+	+	+		+	
synaptosomal-associated protein, 23kD (SNAP23)	2	AJ011915		+	+	+		+	
syndecan binding protein (syntenin) (SDCBP)	15	AF006636	+	+	+	+		+	

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synovial sarcoma, translocated to X chromosome (SSXT)	2	X79201		+		Π			
syntaxin 16	1	AF038897	<del> </del>	+		├	├	├	
syntaxin 3A (STX3A)	2	U32315		+	<u> </u>	+	<del> </del>	+	<u> </u>
1 *	ľ			<u> </u>		<u> </u>	<u> </u>	Ľ	
syntaxin 6 (STX6)	1	AJ002078.1					<u> </u>		
SYNTAXIN BINDING PROTEIN 3 (UNC-18 HOMOLOG 3) (UNC-18C)	1	O00186			_				
syntaxin-16C		AF008937							
SYT interacting protein (SIP)	1	AF080561		+	+	+		+	
T cell activation, increased late expression (TACTILE)	4	M88282				+	_		
T cell receptor V alpha gene segment V-alpha-7 (clone IGRa11)	2	X58744							
T cell receptor V alpha	1	X58740	<u> </u>	1			1		-
gene segment V-alpha-w27		BBBBB		$\downarrow$		<u> </u>	<u> </u>	<u> </u>	
T3 receptor-associating cofactor-1	5	583390	+	+	+	+	+	+	
(tafazzin (cardiomyopathy, dilated 3A (X-linked); endocardial fibroelastosis 2; Barth syndrome) (TAZ)	1	X92763	+	+		+		+	
TAFII100 protein (non- exact 53%)	1	U80191		<b>†</b>					
tankyrase, TRF1-	1	AF082556		++	+	+	<del>                                     </del>	+	
interacting ankyrin-related ADP-ribose polymerase (TNKS)									
TAP1, TAP2, LMP2, LMP7 and DOB	7	X66401							
TAR DNA-binding protein- 43	6	U23731	+	+	+	+		+	
Tat interactive protein (60kD) (TIP60)	2	U40989	+	+	+	+		+	
TATA box binding protein (TBP)-associated factor, RNA polymerase II, C1, 130kD (TAF2C1) (non- exact, 55%)	1	O00268							
TATA box binding protein (TBP)-associated factor, RNA polymerase II, F, 55kD (TAF2F)	4	X97999		+	+	+	+	+	
TATA box binding protein (TBP)-associated factor, RNA polymerase II, G, 32kD (TAF2G)	2	U21858		+	+	+	+	+	
TATA box binding protein (TBP)-associated factor, RNA polymerase II, I, 28kD (TAF2I)	1	D63705	•	+	+	+		+	
Tax1 (human T-cell leukemia virus type I) binding protein 1 (TAX1BP1)	1	U33821		+	+	+	+	+	
T-box 2 (TBX2) (non-exact 77%)	1	U28049			+	+		+	
TBP-associated factor 172 (TAF-172)	7	AJ001017		+		+		+	
T-cell death-associated gene 8 (TDAG8)	1	U95218	-			+			
T-cell leukemia/lymphoma 1A (TCL1A)	1	X82240	+						
T-cell leukemia/lymphoma 1A (TCL1A) (low match)	1	X82240							
T-cell receptor (delta D2- J1-region) (clone K3B)	1	M22197							

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T-cell receptor (V beta 5.1, J beta 1.5, C beta 1) (low match)	1	M97705							
T-cell receptor alpha delta (=M94081)	2	AE000662			-	$\vdash$		<del> </del>	
T-cell receptor alpha enhancer-binding protein,	1	B39625				$\vdash$	_		
short form (=X58636 Mouse LEF1 lymphoid									
enhancer binding factor 1 (=D16503))			:	}					
T-cell receptor delta gene D2-J1-region, clone K3B	1	M22197		1					
T-cell receptor germline beta chain gene V-region	1	M11955							
(V) V-beta-MT1-1 T-cell receptor germline		M14159	+	-	-	-	-	-	only in blood
I-cell receptor germline	2	M22152		-	<u> </u>		_	ļ.,_	
delta-chain D-J region T-cell receptor interacting	2	AJ224878		<del> </del>	ļ	-	ļ	+	
molecule (TRIM) protein T-cell receptor rearranged	1	M21784				-	ļ	_	
delta-chain, V-region (V-  delta 3-J)									i
T-cell receptor, alpha (V,D,J,C) (TCRA)	3	AE000660	+	+	+	+		+	
T-cell receptor, beta cluster (TCRB)		L34740	+	+	+	+	+	+	high in pancreas
T-cell receptor, delta (V,D,J,C) (TCRD)	2	X73617			+	+		+	
T-cell, immune regulator 1 (TCIRG1)	3	U45285							only found in tumor
TCF-1 mRNA for T cell factor 1	1	X59870							
TCF-1 mRNA for T cell factor 1 (splice form B) (low match)	1	X59870							
T-COMPLEX PROTEIN 1, ETA SUBUNIT (TCP-1-	1	Q99832	-						·
ETA) (CCT-ETA) (HIV-1 NEF INTERACTING PROTEIN)									
T-COMPLEX PROTEIN 1, THETA SUBUNIT (TCP-1- THETA) (CCT-THETA) (KIAA0002)	1	P50990							
TCR eta =T cell receptor(eta-exon)	1	S94421							
TCR V Beta 13.2	1	X75419							
TERA	1	AC004472							
testis enhanced gene transcript (TEGT)	33	X75861	+	+	+	+	+	+	
tetracycline transporter-like protein (TETRAN)	2	L11669		+	+	+		+	
tetratricopeptide repeat domain 1 (TTC1)	1	U46570	+	+	+	+		+	
tetratricopeptide repeat domain 2 (TTC2)	1	U46571		+		+		+	
tetratricopeptide repeat domain 3 (TTC3)	1	D84296	+	+	+	+		+	
TGFB1-induced anti- apoptotic factor 1 (TIAF1)	1	D86970	+	+	+	+		+	
thioredoxin reductase 1 (TXNRD1)	3	S79851		+	+	+		+	
THIOREDOXIN- DEPENDENT PEROXIDE	1	P30048							
REDUCTASE PRECURSOR,									
mitochondrial (ANTI- OXIDANT PROTEIN 1) (AOP-1)					•				
(//OC-1)		<u> </u>	<del></del> .						

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threonyl-tRNA synthetase (TARS)	1	M63180		+	+	+		+	1.
thrombin inhibitor	1	Z22658							
thrombospondin 1 (THBS1)	2	X04665		+	+	+	+	+	
thromboxane A synthase 1 (platelet, cytochrome P450, subfamily V) (TBXAZ1)	1	M80647		+		+	+	+	
thymidine kinase 2, mitochondrial (TK2)	2	X76104		+	+		+		
thymidylate kinase (CDC8)		L16991		+	+	+		+	
thymine-DNA glycosylase (TDG)	2	U51166	+	+	+	+		+	
Thymosin, beta 10 (TMSB10)	2	M20259	+	+	+	+	+	+	
thymosin, beta 4, X chromosome (TMSB4X)	29	M17733		+	+	+		+	
thyroid autoantigen 70kD (Ku antigen) (G22P1)	7	J04611							
thyroid hormone receptor coactivating protein (SMAP)	1	AF016270		+		+		+	
thyroid hormone receptor interactor 7 (TRIP7)	2	L40357		+	+	+		+	
thyroid hormone receptor interactor 8r (TRIP8)	4	L40411		+			<b></b> -		
thyroid hormone receptor- associated protein, 230 kDa subunit (TRAP230)	1	D83783							
thyroid receptor interacting protein 15 (TRIP15)	2	L40388	+	+	+	+			
TI-227H	1	D50525						_	
TIA1 cytotoxic granule- associated RNA-binding protein (TIA1)	1	M77142		+	+	+		+	
tissue inhibitor of metalloproteinase 1 (erythroid potentiating activity, collagenase inhibitor) (TIMP1)	1	X02598		+	+	+	+	+	
tissue inhibitor of metalloproteinase 2 (TIMP2)	1	M32304	+	+	+	+		+	high in placenta
tissue specific transplantation antigen P35B (TSTA3)	1	U58766	+	+	+	+		+	
titin (TTN)	1	X64697	+	+	+	+		+	high in muscle
TNF receptor-associated factor 2 (TRAF2)	1	U12597	· · · · · · · · · · · · · · · · · · ·	+	+	+		+	-
TNF receptor-associated factor 3 (TRAF3)	1	AF110908.1		+					
TNF receptor-associated factor 6 (TRAF6) (low match)	1	U78798							
toll-like receptor 1 (TLR1)	1	U88540				+			
toll-like receptor 2 (TLR2)	1	U88878	+	+		+		+	
toll-like receptor 4 (TLR4)	1	U88880		+			+		
toll-like receptor 5 (TILR5)	1	AF051151		+		+			
topoisomerase (DNA) I (TOP1)	1	J03250		+	+	+			
topoisomerase (DNA) II beta (180kD) (TOP2B)	2	X68060	+	+	+	+		+	
topoisomerase (DNA) III beta (TOP3B)	3	D87012	+						
TR3beta	1	D85245		+					
TRAF family member- associated NF-kB activator (TANK)	3	U63830	+	+	+	+	+	+	
TRANSALDOLASE	1	P37837							
transaldolase 1 (TALDO1)	4	L19437		+	+	+	+	+	

			_						
transaldolase-related protein	1	AF010398							6
transcobalamin II (TCII)	1	AF047576					-		
transcription elongation factor B (SIII), polypeptide 1-like (TCEB1L)	2	Z47087	+	+	+	+		+	
transcription elongation factor B (SIII), polypeptide 3 (110kD, elongin A) (TCEB3)	1	L47345	+	+	+	+	+	+	
transcription factor 12 (HTF4, helix-loop-helix transcription factors 4) (TCF12)	1	M83233	+	+	+	+		+	
transcription factor 17 (TCF17)	2	D89928		+		+			
transcription factor 4 (TCR4)	2	X52079		+	+	+		+	
transcription factor 6-like 1 (mitochondrial transcription factor 1-like) (TCF6L1)	2	M62810	+	+	+	+			
transcription factor 7-like 2 (T-cell specific, HMG-box) (TCF7L2)	1	Y11306		+	+	+		+	
transcription factor binding to IGHM enhancer 3 (TFE3)	1	X96717	+	+	+	+		+	
transcription factor IL-4 Stat	7	AF067575	+	+	+	+	+	+	
transcription factor IL-4 Stat (low match)	1	U16031							
transcription factor ISGF-3 (=M97936)	4	M97935							
transcription factor REST	7	A56138							
transcription factor TFIID	1	Z22828	· · · · · · · · · · · · · · · · · · ·						
transcriptional adaptor 2 (ADA2, yeast, homolog)- like (TADA2L)	1	AF064094							
transcriptional intermediary factor 1 (TIF1) (non-exact 72%)	1	AF009353							
transducin (beta)-like 1 (TBL1)	1	Y12781	+	+	+	+		+	
transducin-like enhancer of split 3, homolog of Drosophila E(sp1) (TLE3)	1	M99438	+	+					
Transformation/transcription domain-associated protein (TRRAP)	1	AF076974	+	+	+	+		+	
transformation-sensitive, similar to Saccharomyces cerevisiae STI1 (STI1L)	2	M86752		+	+	+		+	
transforming growth factor beta-activated kinase 1 (TAK1) (non-exact 78%)	1	AB009356							
transforming growth factor beta-stimulated protein TSC-22 (TSC22)	3	AJ222700	+	+	+	+		+	
transforming growth factor, beta receptor III (betaglycan, 300kD) (TGFBR3)	1	L07594		+	+	+		+	
transforming growth factor, beta-induced, 68kD (TGFBI)	2	4507466	+	+	+	+	+	+	
TRANSFORMING GROWTH FACTOR-BETA INDUCED PROTEIN IG-H3 PRECURSOR (BETA IG- H3)	2	Q15582							
transforming, acidic coiled- coil containing protein 1 (TACC1) (non-exact 70%)	1	AF049910							

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transgelin 2 (TAGLN2)	14	D21261	+	+	+	+	+	+	۲۰
transgelin 2 (TAGLN2) (non-exact)	1	D21261							
trans-Golgi network protein (46, 48, 51kD isoforms) (TGN51)	2	AF029316		+		+			
transient receptor potential channel 1 (TRPC1)	1	X89066		+	+	+		+	
transketolase (Wernicke- Korsakoff syndrome) (TKT)	7	L12711		+	+	+		+	
translation factor sui1	1	AF064607		+	+	+	+	+	
translin (TSN)	3	X78627	+	+	+	+		+	
translin-associated factor X (TSNAX)	1	X95073		+	+	+	-	+	
transmembrane glycoprotein (A33)	1	U79725							
transmembrane protein (63kD), endoplasmic reticulum/Golgi intermediate compartment (P63)	1	X69910	+	+	+	+		+	
transmembrane protein 1 (TMEM2)	1	AB001523		+		+		+	
TRANSMEMBRANE PROTEIN SEX PRECURSOR (non-exact 65%)	1	P51805							
transmembrane trafficking protein (TMP21)	2	X97442	+	+	+	+	+	+	
transporter 1, ABC (ATP binding cassette) (TAP1)	3	L21208	+	+	+	+		+	
Treacher Collins- Franceschetti syndrome 1 (TCOF1)	2	U40847	+	+	+	+		+	high in many libraries
triosephosphate isomerase 1 (TPI1)	2	X69723	+	+	+	+	+	+	
tropomyosin	2	X04201		+	+	+		+	
tropomyosin 4 (TPM4)	2	X05276	+	+	+	+		+	
TRPM-2 protein	2	M63376							
tryptase   precursor (non- exact 64%)(=P20231)	1	A35863							
tryptophan rich basic protein (WRB)	1	Y12478							
tryptophanyl-tRNA synthetase (WARS)	1	X59892	+	+	+	+	+	+	
Ts translation elongation factor, mitochondrial (TSFM)	1	L37936	+	+		+		+	
ttopoisomerase (DNA) II beta (180kD)	1	Z15115		+	+			+	
Tu translation elongation factor, mitochondrial (TUFM)	4	L38995							
fuberous sclerosis 1 (TSC1)	1	AF013168		+	+	+		+	
fuberous sclerosis 2 (TSC2)	1	X75621		+	+	+		+	
tubulin, alpha 1 (testis specific) (TUBA1)	1	X06956		+			+		
tubulin, alpha, ubiquitous (K-ALPHA-1)	11	K00558	+	+	+	+	+	+	high in many libraries
tubulin, alpha, ubiquitous (K-ALPHA-1) (low match)	1	K00558							
tubulin-specific chaperone c (TBCC)	1	U61234		+	+	+		+	
tumor necrosis factor (ligand) superfamily, member 10 (TNFSF10)	7	U37518		+	+	+		+	

tumor necrosis factor (ligand) superfamily, member 13 (TNFSF13)	1	AF046888	+	+		+		+	
tumor necrosis factor (ligand) superfamily,	1	AF036581				_			
member 14 (TNFSF14) tumor necrosis factor	1	D38122	+	·		-	_	_	Found only in library
(ligand) superfamily, member 6 (TNFSF6) lumor necrosis factor	<del></del> -	L09753	H only						386: T-cell lymphoma
(ligand) superfamily, member 8 (TNFSF8)	'	L09753	B only						
tumor necrosis factor alpha-inducible cellular protein containing leucine zipper domains (FIP2)	1	AF061034		+	+	+		+	
Tumor necrosis factor receptor superfamily member 7 (TNFRSF7)	2	M63928		+			+		
tumor necrosis factor receptor superfamily,	1	AF016266		+	+	+	+	+	
member 10b (TNFRSF10B) tumor necrosis factor receptor superfamily.	3	AF012629				-	+		
member 10c, decoy without an intracellular domain (TNFRSF10C)									
tumor necrosis factor receptor superfamily, member 10d, decoy with truncated death domain (TNFRSF10D) (non-exact 84%)	1	AF023849							found only in prostate
tumor necrosis factor receptor superfamily, member 12 (translocating chain-association membrane protein) (TNFRSF12)	1	U94508	+	+	+	+		+	·
tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator) (TNFRSF14)	1	U70321	+	+	+	+		+	
tumor necrosis factor receptor superfamily, member 1B (TNFRSF1B)	5	U52165	+	+	+	+		+	
tumor necrosis factor receptor superfamily, member 6 (TNFRSF6)	1	X63717	B, W					+	
tumor necrosis factor receptor superfamily, member 7 (TNFRSF7)	1	M63928	+	+					
tumor necrosis factor, alpha-induced protein 2 (TNFAIP2)	8	M92357		+	+		+		
tumor necrosis factor, alpha-induced protein 3 (TNFAIP3)	2	M59465							
tumor protein 53-binding protein, 1 (TP53BP1)	1	AF078776		+	+	+		+	
tumor protein p53 (Li- Fraumeni syndrome) (TP53)	1	M14695	+	+				+	
Tumor protein p53-binding protein (TP53BPL)	1	U82939	+			+		+	
tumor protein, translationally-controlled 1 (TPT1)	35	X16064							
tumor protein, translationally-controlled 1 (TPT1) (low score)	<del>1</del>	X16064							
tumor rejection antigen (gp96) 1 (TRA1)	9	X15187	+.	+	+	+	+	+	

tumorous imaginal discs (Drosophila) homolog (TID1)	2	AF061749		+					-
TXK tyrosine kinase (TXK)	2	L27071	1	<del> </del>	<del>                                     </del>	+-	+-	+	
type II integral membrane protein (NKG2-E)	1	AJ001685		1-			+		found only in feta
TYRO protein tyrosine kinase binding protein (TYROBP)	3	AF019562			+				
tyrosine 3- monooxygenase/tryptopha n 5-monooxygenase activation protein, beta polypeptide (YWHAB)		X57346	+	+	+	+		+	high in ecnorm
tyrosine 3- monooxygenase/tryptopha n 5-monooxygenase activation protein, zeta polypeptide ( YWHAZ)		M86400							
tyrosine 3- monooxygenase/tryptopha n 5-monooxygenase activation protein, zeta polypeptide (YWHAZ)		M86400							-
Tyrosine kinase 2 (TYK2) TYROSINE-PROTEIN	3	X54637	ļ	+	+	+	<u></u>	+	ļ. <u>.</u>
KINASE ZAP-70 (70 KD ZETA-ASSOCIATED PROTEIN) (SYK-RELATED TYROSINE KINASE)	2	P43403							
tyrosyl-tRNA synthetase (YARS)	1	U89436	+	+	+	+		+	
U1 small nuclear RNA	1	M14387	† <del></del>	$\dagger$		$\vdash$		1	
U19H snoRNA (=M63485 R.norvegicus matrin 3)	1	AJ224166							
U2(RNU2) small nuclear RNA auxillary factor 1 (non-standard symbol) (U2AF1)	1	M96982		+	+	+		+	*
U22 snóRNA host gene (UHG)	2	U40580							
U4/U6-associated RNA splicing factor (HPRP3P)	4	AF016370		+	+	+		+	
U49 small nuclear RNA	1	X96649		1	_		$\vdash$	_	
U5 snRNP-specific protein (220 kD), ortholog of S. cerevisiae Prp8p (PRP8)	1	AB007510	+	+	+	+		+	
U5 snRNP-specific protein, 116 kD (U5-116KD)	4	D21163	+	+	+	+		+	
U5 snRNP-specific protein, 200 kDa (DEXH RNA helicase family) (U5-200- KD)	3	270200		,					
Uba80 mRNA for ubiquitin	4	S79522	+	+	+	+	+	+	high in ovary
ubiquinol-cytochrome c reductase (6.4kD) subunit (UQCR)	1	D55636	+	+	+	+	+	+	high in fetal lung
UBIQUINOL- CYTOCHROME C REDUCTASE IRON- SULFUR SUBUNIT PRECURSOR (RIESKE IRON-SULFUR PROTEIN) (RISP) (low match)	1	P47985							
ubiquitin A-52 residue ribosomal protein fusion product 1 (UBA52)	2	X56999							
ubiquitin activating enzyme E1-like protein (GSA7)	1	AF094516		+	+			+	
ubiquitin C (UBC)	5	AB009010		+	+	+	+	+	high in overy

ubiquitin carboxyl-terminal esterase L3 (ubiquitin thiolesterase) (UCHL3)	1	M30496	+	+	+	+		+	
ubiquitin fusion degradation 1-like (UFD1L)		U64444	+	+	+	+	$\vdash$	+	
ubiquitin protein ligase E3A (human papilloma virus E6- associated protein, Angelman syndrome)	1	U84404	В	+	+			+	
(UBE3A) ubiquitin specific protease	4	D80012	+	+	+	<u> </u>	<u> </u>		
10 (USP10) ubiquitin specific protease	1	U44839	T			+	<u> </u>		
11 (USP11) ubiquitin specific protease	3	AB011101		+	+	+	L <sup>+</sup>	<u> </u>	
15 (USP15) ubiquitin specific protease			+	+	+	+		+	
19 (USP19) ubiquitin specific protease	1	AB020698		+		ļ	<u> </u>	<u> </u>	
4 (proto-oncogene) (USP4)		AF017305	В	+	+		+	+	
ubiquitin specific protease 4 (proto-oncogene) (USP4) (non-exact, 66%)	1	AF017306		:					
ubiquitin specific protease 7 (herpes virus-associated) (USP7)	1	272499		+	+	+		+	
ubiquitin specific protease 8 (USP8)	5	D29956		+	+	+		+	·
UBIQUITIN-ACTIVATING ENZYME E1 (A1S9 PROTEIN) (56%)	1	P22314							
ubiquitin-activating enzyme E1 (A1S9T and BN75 temperature sensitivity complementing) (UBE1)		M58028	+	+	+	+		+	
ubiquitin-activating enzyme E1, like (UBE1L)	1	L34170	+	+		+	-	+	
UBIQUITIN-BINDING PROTEIN P62; phosphotyrosine independent ligand for the	1	U41806			+		+		
Lck SH2 domain p62 (P62) ubiquitin-conjugating	2	U49278	+	+	+	+	+	+	
enzyme E2 variant 1 (UBE2V1)					ľ	Ĺ			
ubiquitin-conjugating enzyme E2 variant 2 (UBE2V2)	1	X98091							
UBIQUITIN- CONJUGATING ENZYME E2-17 KD (UBIQUITIN- PROTEIN LIGASE)	1	Q16781		·					
ubiquitin-conjugating enzyme E2B (RAD6 homolog) (UBE2B)	1	M74525	+	+	+	+		+	
ubiquitin-conjugating enzyme E2G 2 (homologous to yeast UBC7) (UBE2G2)	1	AF032456	+	+	+	+		+	
ubiquitin-conjugating enzyme E2H (homologous to yeast UBC8) (UBE2H)	1	Z29328	+	+	+	+		+	
ubiquitin-conjugating enzyme E2L 1 (UBE2L1)	1	X92962		+	+			+	
ubiquitin-conjugating enzyme E2L 3 (UBE2L3)	3	AJ000519		+	+	+		+	
ubiquitin-conjugating enzyme E2L 6 (UBE2L6)	4	AF031141		+	+	+	+	+	
ubiquitin-like 1 (sentrin) (UBL1)	2	U61397	+	+	+	+		+	

								•	C1/CA00/00003
UDP-N-acetyl-alpha-D- galactosamine:polypeptide N-	2	X85019							
acetylgalactosaminyltransf erase 2 (GalNAc-T2)				:					
(GALNT2)	ļ				<u> </u>		<u> </u>		
UDP-N-acetyl-alpha-D- galactosamine:polypeptide N-	1	X92689							
acetylgalactosaminyltransf erase 3									
(GalNAc-T3) (GALNT3) (non-exact 65%)									
unactive progesterone receptor, 23 Kd (P23)	2	L24804		+	+	+		+	
unconventional myosin-ID (MYO1F)	3	U57053							
uncoupling protein homolog (UCPH)	1	U94592							
uncoupling protein homolog (UCPH) (low match 67%)	1	U94592							
Unknown gene product	1	AC002310		<b>†</b>	<u> </u>	$\vdash$			
unknown mRNA (clone 24514)	1	AF070542							
unknown protein (clone ICRFp507L0677)	2	270223							
unknown protein (Hs.93832)	1	AF070626	+	+	+	+	+	+	
unknown protein IT14	1	AF040966				1			İ
uppressor of Ty (S.cerevisiae) 6 homolog	1	D79984	+	+	+	+	+	+	
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1)	74	573591	+	+	+	+		+	high in heart
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1) (low match)	1	S73591							·
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1) (low match)	1	S73591							
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1) (low score)	1	S73591							
upstream binding factor (hUBF)	1	X53461	+	+		+		+	
UV radiation resistance associated gene (UVRAG)	2	X99050		+	+	+		+	
vacuolar proton-ATPase, subunit D; V-ATPase, subunit D (ATP6DV)	4	X71490		+	+	+	+	+	
v-akt murine thymoma viral oncogene homolog 1 (AKT1)	1	M63167	+	+	+	+		+	
Vanin 2 (VNN2)	3	AJ132100		<del>                                     </del>			-		
vasodilator-stimulated phosphoprotein (VASP)	3	Z46389	+		+	+		+	
vav 1 oncogene (VAV1)	1	M59834		<del>                                     </del>			$\neg \neg$	+	
vav 2 oncogene (VAV2)	1	S76992	+	+		$\vdash$			
v-crk avian sarcoma virus CT10 oncogene homolog (CRK)	1	D10656	W	+	+		+		
v-erb-b2 avian erythroblastic leukemia viral oncogene homolog 3 (ER8B3)	1	M29366						+	
VERSICAN CORE PROTEIN PRECURSOR	1	P13611							
Vesicle-associated membrane protein 1	1	M36196		+	+	+		+	
(synaptobrevin 1) (VAMP1)									

vesicle-associated membrane protein 3 (cellubrevin) (VAMP3)	1	U64520							,
v-tos FBJ murine osteosarcoma viral oncogene homolog (FOS)	26	K00650		+	+	+	+	+	high in aorta
v-fos FBJ murine osteosarcoma viral oncogene homolog (FOS) (low match)	1	K00650							
villin 2 (eznn) (VIL2)	1	X51521	+	+	+	+		+	
villin-like protein	1	D88154			<del></del>		<u> </u>	$t^-$	
vimentin (VIM)	12	X56134		+	+	+	+	+	high in many libraries
vinculin (VCL)	4	M33308		+	+	+	┢	+	<del> </del>
vitamin A responsive; cytoskeleton related (JWA)	6	AF070523		+	+	+		+	
v-jun avian sarcoma virus 17 oncogene homolog (JUN)	2	U65928	+	+	+	+		+	
v-myb avian myeloblastosis viral oncogene homolog (MYB)	1	M15024			+		+		
voltage-dependent anion channel 1 (VDAC1)	1	L06132	+	+	+	+		+	
voltage-dependent anion channel 3 (VDAC3)	4	U90943		+	+	+		+	
von Hippel-Lindau syndrome (VHL)	1	L15409		+	+	+		+	
von Willebrand factor (vWF) (low matched)	1	X06828							
v-rat murine sarcoma 3611 viral oncogene homolog 1 (ARAF1)	2	L24038	+	+	+	+			
v-raf-1 murine leukemia viral oncogene homolog 1 (RAF1)	1	X03484	+	+	+	+		+	
v-ral simian leukemia viral oncogene homolog B (ras related; GTP binding protein) (RALB)	3	M35416							
V-rel avian reticuloendotheliosis viral oncogene homolog A (nuclear factor of kappa light polypeptide gene enhancer in B-cells 3 (p65)) (RELA)	1	L19067	-	+	+	+		+	,
v-yes-1 Yamaguchi sarcoma viral related oncogene homolog (LYN)	2	M16038	+	+		+		+	
WD repeat domain 1 (WDR1)	1	AB010427	+	+	+	+	+	+	
WDR1 (=AF020260)	1	AF020056							
WD-repeat protein (HAN11)	2	U94747		+	+			+	
Williams-Beuren syndrome chromosome region 1 (WBSCR1)	12	AF045555	+	+	+	+	+	+	
Wiskott-Aldrich syndrome protein interacting protein (WASPIP)	4	X86019	+	+	+			+	
X (inactive)-specific transcript (XIST)	2	M97168							
xeroderma pigmentosum, complementation group C (XPC)	3	D21089	+	+	+	+			
XIAP associated factor-1	2	X99699				+	$\neg$		
XIB	1	X90392		+	+		+	+	
X-linked anhidroitic ectodermal dysplasia	1	AF003528							
		·				1			

TV		LINGSON							
X-ray repair complementing defective	1	M30938	+	+	+	+		+	high in spleen
repair in Chinese hamster					l	l	1		
cells 5 (double-strand-					1		1	1	
break				1	i			1	
rejoining; Ku autoantigen,		1				1		l	1
80kD) (XRCC5)					1	1	]	i	
XRP2 protein	1	AJ007590		+-		-	<del> </del>	├	
	L			<del> </del>	<b>⊢</b>	<u> </u>	<del>  </del>	<u> </u>	ļ
yeloid differentiation primary response gene	1	U84408		+	+	+	j	+	1
(88) (MYD88)				1	1		1		
zeta-chain (TCR)		L05148	+	<del> </del>	<del> </del>	+		├	
associated protein kinase	'	1 103140	, ,	1	l	*			l
(70kD) (ZAP70)	•	1	ì	Ì	Į			1	Ì
zeta-chain (TCR)		L05148			<del> </del>	<del> </del>	-	┢	
associated protein kinase	,	200.40			1	ļ			
(70kD) (ZAP70) (low			1		l			1	
match)			1	İ			İ	İ	1
zinc finger protein	2	U69274	+	+	+	+	<b>†</b>	+	
(Hs.47371)				1	i		l		ļ
zinc finger protein	1	U69645	+	+	+	+		+	
(Hs.78765)	L			1	l	1	ı	1	j
zinc finger protein 10 (KOX	1	X78933						Г	+ only
1) (ZNF10)			<u></u>	1	<u> </u>		L	L	
ZINC FINGER PROTEIN	1	Q15973							
124 (HZF-16) (non-exact				1	l				1
51%)				<del></del>		$oxed{oxed}$			
zinc finger protein 124	1	S54641		1	1		1	l	
(HZF-16) (ŽNF124) (non- lexact, 78%)			!	1	ļ.		l	ļ	
ZINC FINGER PROTEIN	1	05772		<del>                                     </del>		L		<u> </u>	
133	'	P52736	1	1		1	l	l	}
zinc finger protein 136	1	U09367	ļ	-	+	+	Ь—	ļ	
(done pHZ-20) (ZNF136)		009367			T	T .	l	l	
zinc tinger protein 140	1-	U09368		++		+	├—	+	
(clone pHZ-39) (ZNF140)	•	003300		1	ì	*	1	*	
zinc finger protein 140	1	AF060865		1-		├	├	-	
(clone pHZ-39) (ZNF140)	•	/ " 000000	!	l .		l	1	ļ	
(non-exact 59%)					Ì	l		1	İ
zinc finger protein 140	1	U09368		<del> </del>			<del>                                     </del>		
(clone pHZ-39) (ZNF140)						1		l	
(non-exact 73%)								1	i
zinc finger protein 140	1	S66508		1					
(clone pHZ-39) (ZNF140) (non-exact 73%aa)				1	l	1		1	
(non-exact 73%aa)				<u> </u>		L.			
zinc finger protein 140	1	U09368		ľ					
(clone pHZ-39) (ZNF140)	1			1		1	1		
(non-exact, 80%)		TIBONES				۰.			
zinc finger protein 143 (clone pHZ-1) (ZNF143)	2	U09850	+	+	+	+	+	+	
zinc finger protein 143	- 4	IIAGGEA		<del> </del>		<del> </del>	<del>  -</del>	<u> </u>	
(clone pHZ-1) (ZNF143)	1	U09850		1			1	l	į
(low match)				1			ĺ		
zinc finger protein 148	1	AF039019	+	+		<del>                                     </del>	<del> </del>	├─	
(pHZ-52) (ZNF148)	•	/ 030013	, i				ŀ		·
ZINC FINGER PROTEIN		Q13105		-			$\vdash$	<del> </del>	
151 (MIZ-1 PROTEIN) (low	·	]					1	ŀ	
match)							l	1	
zinc finger protein 173	1	U09825	B, T	+	+		+		
(ZNF173)								1	
zinc finger protein 192	1	U57796		T			_		
[(ZNF192) (non-exact, 66%)			L	L		L	l <u>.</u>	L	
zinc finger protein 198	1	AJ224901		+	+	+			
(ZNF198)								L	
zinc finger protein 2 (ZNF2)	1	X60152							
(low match)				1			Ŀ		
zinc finger protein 200	1	AF060866		+		+			
(ZNF200)		AEN4BERA		1		Ļ	اـــــا	<u></u>	
zinc finger protein 207 (ZNF207)	6	AF046001	+	+	+	+	+	+	high in prostate
zinc finger protein 216	2	AENGONTO	<del></del>	<b> </b>		<u> </u>	<u> </u>	<u> </u>	
(ZNF216)	2	AF062072	+	+	+	+		+	
(411 210)		i		ــــــــــــــــــــــــــــــــــــــ	L	L.,	L	L	L

zinc finger protein 217	1	AF041259	Tacti	vated		т-	Т	1 +	<del></del>
(ZNF217) ZINC FINGER PROTEIN	1	P17026		1	T		├		
22 (ZINC FINGER PROTEIN KOX15) (non-exact 58%)									
zinc finger protein 230 (ZNF230)	1	U95044		+					
Zinc finger protein 239 (ANF239)	1	L26914		+		+		$\top$	
zinc finger protein 261 (ZNF261)	1	AB002383		+	+	+		+	
zinc finger protein 262 (ANF262)	1	AB007885		+	+	+		+	
zinc finger protein 263 (ZNF263)		D88827							
zinc finger protein 264 (ZNF264)	1	AB007872		+	+	+			
ZINC FINGER PROTEIN 33A (ZINC FINGER PROTEIN KOX31) (KIAA0065) (HA0946)	1	Q06730							
zinc finger protein 42 (myeloid-specific retinoic cid- responsive) (ZNF42)		M58297	+	+	+	+		+	
zinc finger protein 43 (HTF6) (ZNF43) (low match)	1	X59244							
zinc finger protein 43 (HTF6) (ZNF43) (non- exact, 54%)	1	X59244							
zinc finger protein 43 (HTF6) (ZNF43) (non- exact, 71%)	1	X59244							
ZINC FINGER PROTEIN 43 (ZINC PROTEIN HTF6) (non-exact 67%)	1	P28160							
zinc finger protein 45 (a Kruppel-associated box (KRAB) domain polypeptide) (ZNF45)	1	L75847							only found in testis
ZINC FINGER PROTEIN 46 (ZINC FINGER PROTEIN KUP) (non-exact 62%)	1 "-	P24278							
zinc finger protein 6 (CMPX1) (ZNF6)	1	X56465		+	+	+		+	
zinc finger protein 74 (Cos52) (ZNF74) (non- exact, 67%)	1	X71623							
zinc finger protein 76 (expressed in testis) (ZNF76)	1	M91592		+	+ .	+		+	
ZINC FÍNGER PROTEIN 83 (ZINC FINGER PROTEIN HPF1) (non- exact 65%)	1	P51522							
zinc finger protein 84 (HPF2) (ZNF84)	1	M27878	Tactivated	+	+			+	
zinc finger protein 85 (ZNF85))	2	U35376		+	+	+			
zinc finger protein 9 (ZNF9)	5	M28372		+	+	+	+	+	
ZINC FINGER PROTEIN 93 (=ZINC FINGER PROTEIN HTF34) (non- exact 70%)	1	P35789							
zinc finger protein C2H2-25 (ZNF25)	3	U38904		+	+	+			
zinc finger protein clone L3-4	1	AF024706							
zinc finger protein homologous to Zfp-36 in mouse (ZFP36)	4	M92843	+						blood only

ZINC FINGER PROTEIN HRX (ALL-1) (71%a.a.)	1	Q03164		T						<del></del> :
zinc finger protein HZF4	1	X78927							 ***************************************	
zinc finger protein RIZ	1	D45132	+	17	+	+	$\neg \dagger$	+	 	
zinc finger protein, subfamily 1A, 1 (Ikaros) (LYF1)	1	U40462	+							
zinc finger protein, subfamily 1A, 1 (lkaros) (LYF1) (low match)	1	U40462								
zinc finger transcriptional regulator (GOS24)	1	M92844								
zinc-finger helicase (hZFH)	2	U91543	+	+	+	+		+		<del></del> -
Zn-15 related zinc finger protein (rff)	1	U22377	-	+	+	+				
Zn-15 related zinc finger protein (rlf) (non-exact 56%)	1	U22377								
ZNF80-linked ERV9 long terminal repeat	1	X83497			-					
ZW10 (Drosophila) homolog, centromere/kinetochore protein (ZW10)	2	U54996		+						
zyxin (ZYX)	4	X95735			1				 	

Column 1: List of unique genes derived from 6,283 known ESTs from blood cells.

Column 2: Number of genes found in randomly sequenced ESTs from blood cells.

Column 3: Accession number. Column 4: "+" indicates the presence of the unique gene in publicly available cDNA libraries of blood (Bl), brain (Br), heart (H), kidney (K), liver (Li) and lung (Lu). \*\*Comparison to previously identified tissue-specific genes was determined using the GenBank of the National Centre of Biotechnology Information (NCBI) Database.

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### Discussion

Every cell and tissue comprising the human body share the necessary genetic information required to maintain cellular homeostasis. These "housekeeping" genes function in basic cellular maintenance, including energy metabolism and cellular structure in all cell types. However, in certain situations, even the housekeeping genes show altered expression. Thus, it is necessary to define the use of these genes as internal controls from one investigation to another. Current results from the human blood cell EST database indicate that over 50% of the transcripts are

widely expressed throughout the human body. Most of the cell or tissue specific genes are also detectable in blood cells by RT-PCR analysis.

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For example, isoformic myosin heavy chain genes are known to be generally expressed in cardiac muscle tissue. In the rodent, the βMyHC gene is only highly expressed in the fetus and in diseased states such as overt cardiac hypertrophy, heart failure and diabetes; the αMyHC gene is highly expressed shortly after birth and continues to be expressed in the adult heart. In the human, however, βMyHC is highly expressed in the ventricles from the fetal stage through adulthood. This highly expressed βMyHC, which harbours several mutations, has been demonstrated to be involved in familial hypertrophic cardiomyopathy (Geisterfer-Lowrance *et al.* 1990). It was reported that mutations of βMyHC can be detected by PCR using blood lymphocyte DNA (Ferrie et al., 1992). Most recently, it was also demonstrated that mutations of the myosin-binding protein C in familial hypertrophic cardiomyopathy can be detected in the DNA extracted from lymphocytes (Niimura *et al.*, 1998).

Similarly, APP and APC, which are known to be tissue specific and predominantly expressed in the brain and intestinal tract, are also detectable in the transcripts of blood. These cell- or tissue-specific transcripts are not detectable by Northern blot analysis. However, the low number of transcript copies can be detected by RT-PCR analysis. These findings strongly demonstrate that genes preferentially expressed in specific tissues can be detected by a highly sensitive RT-PCR assay. In recent years, evidence has been obtained to indicate that expression of cell or tissue-restricted genes can be detected in the peripheral blood of patients with metastatic transitional cell carcinoma (Yuasa et al. 1998) and patients with prostate cancer (Gala et al. 1998).

Atrial natriuretic factor (ANF) and zinc finger protein (ZFP), which are known to be highly expressed in heart tissue biopsies and in the plasma of heart failure patients, are also detectable in the transcripts of blood. Differential expression of zinc finger protein among the normal, diabetic and asymptomatic preclinical

subjects may have additional value as a prophylactic "early warning system". On a related note, there is now more attention/discussion in the cardiovascular disease field being focused on Syndrome X, loosely defined as a continuum of hypertension, increasing sugar levels, diabetes, kidney failure, culminating in heart failure, with the possibility of stroke and heart attack at any time in the continuum. The early identification of patients at risk of organ failure has been a challenge to the medical community for some time and the present method has the potential of resolving or, at least, ameliorating this challenge.

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The present invention demonstrates that a simple drop of blood may be used to determine the quantitative expression of various mRNAs that reflect the health/disease state of the subject through the use of RT-PCR analysis. This entire process takes about three hours or less. The single drop of blood may also be used for multiple RT-PCR analyses. There is no need for large samples and/or costly and time-consuming separation of cell types within the blood for this method as compared to the methods described by Kimoto (1998) and Chelly et al. (1989; 1988). It is believed that the present finding can potentially revolutionize the way that diseases are detected, diagnosed and monitored because it provides a non-invasive, simple, highly sensitive and quick screening for tissue-specific transcripts. The transcripts detected in whole blood have potential as prognostic or diagnostic markers of disease, as they reflect disturbances in homeostasis in the human body. Delineation of the sequences and/or quantitation of the expression levels of these marker genes by RT-PCR will allow for an immediate and accurate diagnostic/prognostic test for disease or to assess the efficacy and monitor a particular therapeutic.

In addition to RT-PCR, other methods of amplifying may also be used for the purpose of measuring/quantitating tissue-specific transcripts in human blood. For example, mass spectrometry may be used to quantify the transcripts (Koster et al., 1996; Fu et al., 1998). The application of presently disclosed method for detecting tissue-specific transcripts in blood does not restrict to subjects undergoing course of

therapy or treatment, it may also be used for monitoring a patient for the onset of overt symptoms of a disease. Furthermore, the present method may be used for detecting any gene transcripts in blood. A kit for diagnosing, prognosing or even predicting a disease may be designed using gene-specific primers or probes derived from a whole blood sample for a specific disease and applied directly to a drop of blood. A cDNA library specific for a disease may be generated from whole blood samples and used for diagnosis, prognosis or even predicting a disease.

The following references were cited herein:

Claudio JO et al. (1998). Genomics 50:44-52.

5

10 Chelly J et al. (1989). Proc. Nat. Acad. Sci. USA. 86:2617-2621.

Chelly J et al. (1988). Nature 333:858-860.

Drews J & Ryser S (1997). Nature Biotech. 15:1318-9.

Ferrie RM et al. (1992). Am. J. Hum. Genet. 51:251-62.

Fu D-J et al. (1998). Nat. Biotech 16: 381-4.

15 Gala JL et al. (1998). Clin. Chem. 44(3):472-81.

Geisterfer-Lowrance AAT et al. (1990). Cell 62:999-1006.

Groden J et al. (1991). Cell 66:589-600.

Hwang DM et al. (1997). Circulation 96:4146-4203.

Jandreski MA & Liew CC (1987). Hum. Genet. 76:47-53.

20 Jin O et al. (1990). Circulation 82:8-16

Kimoto Y (1998). Mol. Gen. Genet 258:233-239.

Koster M et al. (1996). Nat. Biotech 14: 1123-8.

Liew & Jandreski (1986). Proc. Nat. Acad. Sci. USA. 83:3175-3179

Liew CC et al. (1990). Nucleic Acids Res. 18:3647-3651.

25 Liew CC (1993). J Mol. Cell. Cardiol. 25:891-894

Liew CC et al. (1994). Proc. Natl. Acad. Sci. USA. 91:10645-10649.

Liew et al. (1997). Mol. and Cell. Biochem. 172:81-87.

Niimura H et al. (1998). New Eng. J. Med. 338:1248-1257.

Ogawa M (1993). Blood 81:2844-2853.

5

Santoro IM & Groden J (1997). Cancer Res. 57:488-494.

Yuasa T et al. (1998). Japanese J. Cancer Res. 89:879-882.

Any patents or publications mentioned in this specification are indicative of the levels of those skilled in the art to which the invention pertains. Further, these patents and publications are incorporated by reference herein in their entirety to the same extent as if each individual publication was specifically and individually indicated to be incorporated by reference.

One skilled in the art will appreciate readily that the present invention is well adapted to carry out the objects and obtain the ends and advantages mentioned, as well as those objects, ends and advantages inherent herein. The present examples, along with the methods, procedures, treatments, molecules, and specific compounds described herein are presently representative of preferred embodiments, are exemplary, and are not intended as limitations on the scope of the invention. Changes therein and other uses will occur to those skilled in the art which are encompassed within the spirit of the invention as defined by the scope of the claims.

### WHAT IS CLAIMED IS:

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- 1. A method for detecting expression of a gene in blood from a subject, comprising the steps of:
  - a) quantifying RNA from a subject blood sample; and
- b) detecting expression of said gene in the quantified RNA, wherein the expression of said gene in said quantified RNA indicates expression of said gene in the subject blood.
- 10 2. The method of claim 1, wherein the quantification is performed by mass spectrometry.
  - 3. A method for detecting expression of one or more genes in blood from a subject, comprising the steps of:
    - a) obtaining a subject blood sample;
    - b) extracting RNA from said blood sample;
    - c) amplifying said RNA;
  - d) generating expressed sequence tags from the amplified RNA product; and
- e) detecting expression of said genes in the expressed sequence tags, wherein the expression of said genes in said expressed sequence tags indicates expression of said genes in the subject blood.
- 4. The method of claim 3, wherein said genes are non-cancer-25 associated genes.
  - 5. The method of claim 3, wherein said genes are tissue-specific genes.

6. The method of claim 3, wherein said subject is a fetus, an embryo, a child, an adult or a non-human animal.

- 5 7. The method of claim 3, wherein the amplification is performed by RT-PCR.
- 8. The method of claim 7, wherein said RT-PCR utilizes primers selected from the group consisting of random sequence primers and gene-specific primers.
  - 9. A method for detecting expression of one or more genes in blood from a subject, comprising the steps of:
    - a) obtaining a subject blood sample;
    - b) extracting DNA fragment(s) from said blood sample;
    - c) amplifying said DNA fragment(s); and
  - d) detecting expression of said genes in the amplified DNA product, wherein the expression of said genes in said amplified DNA product indicates expression of said genes in the subject blood.

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- 10. A method for monitoring a course of therapeutic treatment in an individual, comprising the steps of:
  - a) obtaining a blood sample from said individual;
  - b) extracting RNA from said blood sample;
  - c) amplifying said RNA;
- d) generating expressed sequence tags from the amplified RNA product; and

e) detecting expression of genes in said expressed sequence tags, wherein the expression of said genes is associated with the effect of said therapeutic treatment; and

- f) repeating steps a)-e), wherein the course of said therapeutic treatment is monitored by detecting the change of expression of said genes in the expressed sequence tags.
  - 11. The method of claim 10, wherein the amplification is performed by RT-PCR.

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- 12. The method of claim 11, wherein the change of expression of said genes in the expressed sequence tags is monitored by sequencing the expressed sequence tags and comparing the resulting sequences at various time points.
- 13. The method of claim 11, wherein the change of expression of said genes in the expressed sequence tags is monitored by performing single nucleotide polymorphism analysis and detecting the variation of a single nucleotide in the expressed sequence tags at various time points.
- 14. The method of claim 10, wherein said individual is monitored for the onset of overt symptoms of a disease, and wherein the expression of said genes is associated with the onset of said symptoms.
- 15. A method for diagnosing a disease in a test subject, comprising the steps of:
  - a) generating a cDNA library for said disease from a whole blood sample from a normal subject;

b) generating expressed sequence tag (EST) profile from the normal subject cDNA library;

c) generating a cDNA library for said disease from a whole blood sample from a test subject;

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- d) generating EST profile from the test subject cDNA library; and
- e) comparing the test subject EST profile to the normal subject EST profile, wherein if said test subject EST profile differs from said normal subject EST profile, said test subject might be diagnosed with said disease.
- 16. A kit for diagnosing, prognosing or predicting a disease, comprising:
  - a) gene-specific primers; wherein said primers are designed in such a way that the sequences of said primers contain the opposing ends of two adjacent exons for the specific gene with the intron sequence excluded; and
    - b) a carrier, wherein said carrier immobilizes said primer(s).
  - 17. The kit of claim 16, wherein said gene-specific primer(s) are selected from the group consisting of insulin-specific primers, atrial natriuretic factor-specific primers, zinc finger protein gene-specific primers, beta-myosin heavy chain gene-specific primers, amyloid precurser protein gene-specific primers, and adenomatous polyposis-coli protein gene-specific primers.
  - 18. The kit of claim 17, wherein the sequences of said genespecific primers are selected from the group consisting of SEQ ID Nos. 1 and 2, and SEQ ID Nos. 5 and 6.
  - 19. A method for diagnosing, prognosing or predicting a disease in a test subject, comprising the step of:

applying the kit of claim 16 to a test subject whole blood sample, wherein quantitative expression levels of specific genes associated with said disease are detected and compared to the levels of said specific genes expressed in a normal subject, therefore, said disease may be diagnosed, prognosed or predicted.

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20. The method of claim 19, wherein said method is used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of said disease.

10 21. A kit for diagnosing, prognosing or predicting a disease,

- comprising:
- a) probes derived from a whole blood sample for a specific disease; and
  - b) a carrier, wherein said carrier immobilizes said probes.

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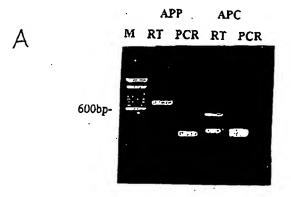
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22. A method for diagnosing, prognosing or predicting a disease in a test subject, comprising the step of:

applying the kit of claim 21 to a test subject whole blood sample, wherein quantitative expression levels of specific genes associated with said disease are detected and compared to the levels of said specific genes expressed in a normal subject, therefore, said disease may be diagnosed, prognosed or predicted.

- 23. The method of claim 22, wherein said method is used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of said disease.
- 24. A cDNA library specific for a disease, wherein said cDNA . library is generated from whole blood samples.



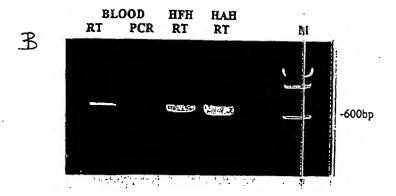


FIGURE 1



FIGURE 2

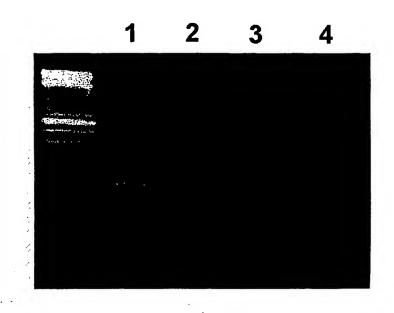


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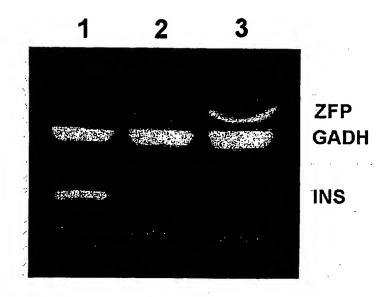
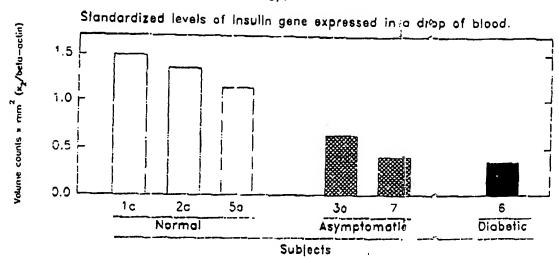
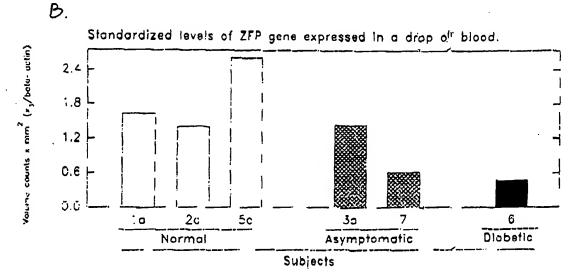
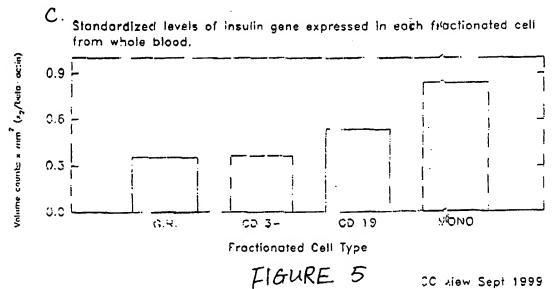


FIGURE 4

CC Alew Sept 1999





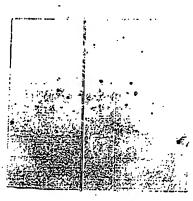


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B









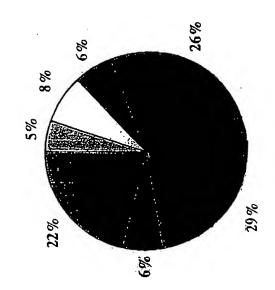
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Ribosome: 498 Repeat: 868

Mis.: 156 Novel: 2,718

Human Blood



■ Cell Division

# ☐ Cell Signalling/Communication

## Cell structure/Motility

### Cell/organism defense





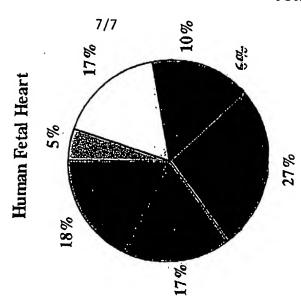


FIGURE 7

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### (19) World Intellectual Property Organization International Bureau





### (43) International Publication Date 13 July 2000 (13.07.2000)

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(75) Inventor/Applicant (for US only): LIEW, Choong-Chin [CA/CA]; 81 Millersgrove Drive, Willowdale, Ontario M2R 3S1 (CA).

- (74) Agent: DEETH WILLIAMS WALL; National Bank Building, Suite 400, 150 York Street, Toronto, Ontario M5H 3S5 (CA).
- (81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
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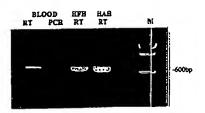
### Published:

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[Continued on next page]

(54) Title: METHOD FOR THE DETECTION OF GENE TRANSCRIPTS IN BLOOD AND USES THEREOF





00/40749 A3

(57) Abstract: The present invention is directed to detection and measurement of gene transcripts in blood. Specifically provided is a RT-PCR analysis performed on a drop of blood for detecting, diagnosing and monitoring diseases using tissue-specific primers. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-associated genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Inter anal Application No PCT/CA 00/00005

A CLASSI IPC 7	C12Q1/68	
According to	International Patent Classification (IPC) or to both national classification and IPC	<del></del>
	SEARCHED	
Minimum do	cumentation searched (classification system followed by classification symbols)	
Documenta	ion searched other than minimum documentation to the extent that such documents are included in t	he fields searched
Electronic d	ata base consulted during the international search (name of data base and, where practical, search t	erms used)
EPO-In	ternal, WPI Data, PAJ, MEDLINE, CHEM ABS Data, BIOSIS	S, EMBASE, EMBL
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 49342 A (COCKBAIN JULIAN R M ;FORSKNINGSPARKEN I AAS AS (NO); LOENNEBORG AN)	1-15, 21-24
	5 November 1998 (1998-11-05)	10.20
Υ	the whole document	19,20
X	WO 98 24935 A (AN GANG ;HARA MARK O (US); RALPH DAVID (US); VELTRI ROBERT (US); U) 11 June 1998 (1998-06-11)	1-15, 21-24
Υ	the whole document	19,20
X	EP 0 534 640 A (PFIZER)	16
Y	31 March 1993 (1993-03-31) the whole document	17-20
	-/	

Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
*Special categories of cited documents:  *A* document defining the general state of the art which is not considered to be of particular refevance  *E* earlier document but published on or after the international filling date  *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  *O* document referring to an oral disclosure, use, exhibition or other means  *P* document published prior to the international filling date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention.  "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone.  "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.  "&" document member of the same patent family
Date of the actual completion of the international search	⊴ate of mailing of the international search report
27 June 2000	12/07/2000
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Hagenmaier, S

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Inter mal Application No PCT/CA 00/00005

C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 11, 28 November 1997 (1997-11-28) & JP 09 187299 A (NIPPON BIO SERAPII KK), 22 July 1997 (1997-07-22) abstract & DATABASE GCG_GENESEQ 'Online! AC:V00198, March 1998 (1998-03) NIPPON BIOTHERAPY: "HUMAN INSULIN SENSE PRIMER INS-7" abstract	17,18
Y	DATABASE GENBANK 'Online! AC:V00565, March 1995 (1995-03) BELL ET AL.: "HUMAN GENE FOR PREPROINSULIN" XP002141055 abstract	17,18
Υ	DATABASE GENBANK 'Online! AC:M54947, April 1993 (1993-04) SEIDMAN ET AL.: "HUMAN ATRIAL NATRIURETIC FACTOR GENE" XP002141054 abstract	17,18
Y	DATABASE GENBANK 'Online! AC:X52889, September 1993 (1993-09) LIEW: "HUMAN GENE FOR CARDIAC BETA MYOSIN HEAVY CHAIN" XP002141056 abstract	17
Y	DATABASE GENBANK 'Online! AC:2808656, December 1998 (1998-12) BERNOT ET AL.: "A TRANSCRIPTIONAL MAP OF THE FMF REGION/ZINC FINGER PROTEIN" XP002141057 abstract	17
Y	YOSHIKAI ET AL.: "GENOMIC ORGANIZATION OF THE HUMAN AMYLOID BETA-PROTEIN PRECURSOR GENE" GENE, vol. 87, 1990, pages 257-263, XP002141053 the whole document	17
Y	DATABASE GENBANK 'Online! AC:M73548, January 1995 (1995-01) JOSLYN ET AL.: "HUMAN POLYPOSIS LOCUS mRNA" XP002141058 abstract	17

Inter onal Application No PCT/CA 00/00005

	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	Relevant to daim No.
Category *	Citation of document, with indication, where appropriate, of the relevant passages	THOTER IS WELLTHON
A	WO 98 18906 A (CLAYCOMB WILLIAM CREIGHTON; PROCTER & GAMBLE (US)) 7 May 1998 (1998-05-07) the whole document	
Α	US 5 352 775 A (MARKHAM ALEXANDER F ET AL) 4 October 1994 (1994-10-04) the whole document	
Α	DE 44 35 919 C (DEUTSCHES KREBSFORSCH) 7 December 1995 (1995-12-07) the whole document	
Α	US 5 837 449 A (ECKER DAVID J ET AL) 17 November 1998 (1998-11-17) the whole document	
Α	WO 98 33942 A (NAKAO KOICHI ;BRISTOW MICHAEL R (US); LEINWAND LESLIE A (US); MINO) 6 August 1998 (1998-08-06) the whole document	
	`	•
		,

information on patent family members

Inter onal Application No PCT/CA 00/00005

	tent document in search report		Publication date		Patent family member(s)		Publication date
WO	9849342	Α	05-11-1998	AU	7222698		24-11-1998
				EP	0979308		16-02-2000
				NO 	995296 	A 	14-12-1999
	9824935	Α	1·1-06-1998	AU	5515198		29-06-1998
				EP	0960214	Α	01-12-1999
 FP	0534640	Α	31-03-1993	AT	143700		15-10-1996
	0001010			CA	2078703		24-03-1993
				DE	69214243	D	07-11-1996
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				DK	534640	T	17-03-1997
				ES	2092056	T	16-11-1996
				FI	924242	Α	24-03-1993
				GR	3021721	T	28-02-1997
				JP	2703156	В	26-01-1998
				JP	5192199	Α	03-08-1993
				US	5643730	Α	01-07-1997
JP	09187299	Α	22-07-1997	NONE			
MU	9818906	Α	07-05-1998	AU	5149998		22-05-1998
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•	••••			US	5691454		25-11-1997
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				US	RE36713	Ε	23-05-2000
				AU	1366992	Α	27-08-1992
				EP	0569527	Α	18-11-1993
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DE	4435919		07-12-1995	WO	9611267	Α	18-04-1996
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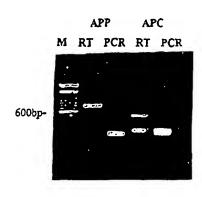
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(71) Applicant (for all designated States except US): GENE-NEWS INC. [CA/CA]; 45 Bevdale Road, Toronto, Ontario, M2R 1L8 (CA).

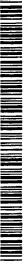
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): LIEW, Choong-Chin [CA/CA]; 81 Millersgrove Drive, Willowdale, Ontario M2R 3S1 (CA).
- (74) Agent: DEETH WILLIAMS WALL; National Bank Building, Suite 400, 150 York Street, Toronto, Ontario M5H 3S5 (CA).
- (81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

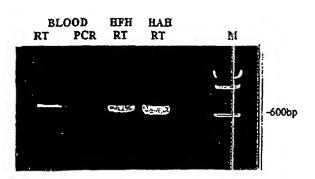
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(57) Abstract: The present invention is directed to detection and measurement of gene transcripts in blood. Specifically provided is a RT-PCR analysis performed on a drop of blood for detecting, diagnosing and monitoring diseases using tissue-specific primers. The present invention also describes methods by which delineation of the sequence and/or quantitation of the expression levels of disease-associated genes allows for an immediate and accurate diagnostic/prognostic test for disease or to assess the effect of a particular treatment regimen.





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### METHOD FOR THE DETECTION OF GENE TRANSCRIPTS IN BLOOD AND USES THEREOF

### BACKGROUND OF THE INVENTION

### Cross-Reference to Related Application

This application claims the benefit of priority of provisional patent application U.S. Serial Number 60/115,125, filed January 6, 1999 and of a U.S. application entitled "Method for the Detection of Gene Transcripts in Blood and uses Thereof" filed on January 4, 2000 (application number not yet assigned).

### Field of the Invention

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The present invention relates generally to the molecular biology of human diseases. More specifically, the present invention relates to a process using the genetic information contained in human peripheral whole blood for the diagnosis, prognosis and monitoring of genetic and infectious disease in the human body.

### Description of the Related Art

The blood is a vital part of the human circulatory system for the human body. Numerous cell types make up the blood tissue including monocytes, leukocytes, lymphocytes and erythrocytes. Although many blood cell types have been described, there are likely many as yet undiscovered cell types in the human blood. Some of these undiscovered cells may exist transiently, such as those derived from tissues and organs that are constantly interacting with the circulating blood in health and disease. Thus, the blood can provide an immediate picture of what is happening in the human body at any given time.

The turnover of cells in the hematopoietic system is enormous. It was reported that over one trillion cells, including 200 billion erythrocytes and 70 billion neutrophilic leukocytes, turn over each day in the human body (Ogawa 1993). As a consequence of continuous interactions between the blood and the body, genetic changes that occur within the cells or tissues of the body will trigger specific changes in gene expression within blood. It is the goal of the present invention that these genetic alterations be harnessed for diagnostic and prognostic purposes, which may lead to the development of therapeutics for ameliorating disease.

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The complete profile of gene expression in the circulating blood remains totally unexplored. It is hypothesized that gene expression in the blood is reflective of body state and, as such, the resultant disruption of homeostasis under conditions of disease can be detected through analysis of transcripts differentially expressed in the blood alone. Thus, the identification of several key transcripts or genetic markers in blood will provide information about the genetic state of the cells, tissues, organs and systems of the human body in health and disease.

The prior art is deficient in non-invasive methods of screening for tissue-specific diseases. The present invention fulfills this long-standing need and desire in the art.

### **SUMMARY OF THE INVENTION**

This present invention discloses a process of using the genetic information contained in human peripheral whole blood in the diagnosis, prognosis and monitoring of genetic and infectious disease in the human body. The process described herein requires a simple blood sample and is, therefore, non-invasive compared to conventional practices used to detect tissue specific disease, such as biopsies.

One object of the present invention is to provide a non-invasive method for the diagnosis, prognosis and monitoring of genetic and infectious disease in humans and animals.

In one embodiment of the present invention, there is provided a method for detecting expression of a gene in blood from a subject, comprising the steps of: a) quantifying RNA from a subject blood sample; and b) detecting expression of the gene in the quantified RNA, wherein the expression of the gene in quantified RNA indicates the expression of the gene in the subject blood.

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In another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; and e) detecting expression of the genes in the ESTs, wherein the expression of the genes in the ESTs indicates the expression of the genes in the subject blood. Preferably, the genes are tissue-specific genes.

In still another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting DNA fragments from the blood sample; c) amplifying the DNA fragments; and d) detecting expression of the genes in the amplified DNA product, wherein the expression of the genes in the subject blood.

In yet another embodiment of the present invention, there is provided a method for monitoring a course of a therapeutic treatment in an individual, comprising the steps of: a) obtaining a blood sample from the individual; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; e) detecting expression of genes in the ESTs, wherein the expression of the genes is associated with the effect of

the therapeutic treatment: and f) repeating steps a)-e), wherein the course of the therapeutic treatment is monitored by detecting the change of expression of the genes in the ESTs. Such a method may also be used for monitoring the onset of overt symptoms of a disease, wherein the expression of the genes is associated with the onset of the symptoms.

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In still yet another embodiment of the present invention, there is provided a method for diagnosing a disease in a test subject, comprising the steps of:

a) generating a cDNA library for the disease from a whole blood sample from a normal subject; b) generating expressed sequence tag (EST) profile from the normal subject cDNA library; c) generating a cDNA library for the disease from a whole blood sample from a test subject; d) generating EST profile from the test subject cDNA library; and e) comparing the test subject EST profile to the normal subject EST profile, wherein if the test subject EST profile differs from the normal subject EST profile, the test subject might be diagnosed with the disease.

In still yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) genespecific primers; wherein the primers are designed in such a way that their sequences contain the opposing ends of two adjacent exons for the specific gene with the intron sequence excluded; and b) a carrier, wherein the carrier immobilizes the primer(s). Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease.

In yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) probes derived from a whole blood sample for a specific disease; and b) a carrier, wherein the carrier immobilizes the probes. Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease.

Furthermore, the present invention provides a cDNA library specific for a disease, wherein the cDNA library is generated from whole blood samples.

Other and further aspects, features, and advantages of the present invention will be apparent from the following description of the presently preferred embodiments of the invention. These embodiments are given for the purpose of disclosure.

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### **BRIEF DESCRIPTION OF THE DRAWINGS**

So that the matter in which the above-recited features, advantages and objects of the invention, as well as others which will become clear, are attained and can be understood in detail, more particular descriptions of the invention briefly summarized above may be had by reference to certain embodiments thereof which are illustrated in the appended drawings. These drawings form a part of the specification. It is to be noted, however, that the appended drawings illustrate preferred embodiments of the invention and therefore are not to be considered limiting in their scope.not be considered to limit the scope of the invention.

Figure 1 shows the following RNA samples prepared from human blood; Figure 1A: Lane 1, Molecular weight marker; Lane 2, RT-PCR on APP gene; Lane 3, PCR on APP gene; Lane 4, RT-PCR on APC gene; Lane 5, PCR on APC gene; Figure 1B: Lanes 1 and 2, RT-PCR and PCR of βMyHC, respectively; Lanes 3 and 4, RT-PCR of βMyHC from RNA prepared from human fetal and human adult heart, respectively; Lane 5, Molecular weight marker.

Figure 2 shows quantitative RT-PCR analysis performed on RNA samples extracted from a drop of blood. Forward primer (5'-GCCCTCTGGGGACCTGAC-3', SEQ ID No. 1) of exon 1 and reverse primer (5'-CCCACCTGCAGGTCCTCT-3", SEQ ID No. 2) of exons 1 and 2 of insulin gene. Blood samples of 4 normal subjects were assayed. Lanes 1, 3, 5 and 7 represent overnight "fasting" blood sample and lanes 2, 4, 6 and 8 represent "non-fasting" samples.

Figure 3 shows quantitative RT-PCR analysis performed on RNA samples extracted from a drop of blood. Lanes 1 and 2 represent normal healthy person and lane 3 represents late-onset diabetes (Type II) and lane 4 represents asymptomatic diabetes.

Figure 4 shows multiple RT-PCR assay in a drop of blood. Primers were derived from insulin gene (INS), zinc-finger protein gene (ZFP) and house-keeping gene (GADH). Lane 1 represents normal person. Lane 2 represents late-onset diabetes and lane 3 represents asymptomatic diabetes.

Figure 5 shows standardized levels of insulin gene (Figure 5A) and ZFP gene (Figure 5B) expressed in a drop of blood. The first three subjects were normal, second two subjects showed normal glucose tolerance, and the last subject had late onset diabetes type II. Figure 5C shows standardized levels of insulin gene expressed in each fractionated cell from whole blood.

Figure 6 shows the differential screening of human blood cell cDNA library with different cDNA probes of heart and brain tissue. Figure 6A shows blood cell cDNA probes vs. adult heart cDNA probes. Figure 6B shows blood cell cDNA probes vs. human brain cDNA probes.

Figure 7 graphically shows the 1,800 unique genes in human blood and in the human fetal heart grouped into seven cellular functions.

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### DETAILED DESCRIPTION OF THE INVENTION

In accordance with the present invention, there may be employed conventional molecular biology, microbiology, and recombinant DNA techniques within the skill of the art. Such techniques are explained fully in the literature. See, e.g., Sambrook, Fritsch & Maniatis, "Molecular Cloning: A Laboratory Manual (1982); "DNA Cloning: A Practical Approach," Volumes I and II (D.N. Glover ed. 1985); "Oligonucleotide Synthesis" (M.J. Gait ed. 1984); "Nucleic Acid

Hybridization" [B.D. Hames & S.J. Higgins eds. (1985)]; "Transcription and Translation" [B.D. Hames & S.J. Higgins eds. (1984)]; "Animal Cell Culture" [R.I. Freshney, ed. (1986)]; "Immobilized Cells And Enzymes" [IRL Press, (1986)]; B. Perbal, "A Practical Guide To Molecular Cloning" (1984). Therefore, if appearing herein, the following terms shall have the definitions set out below.

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A "cDNA" is defined as copy-DNA or complementary-DNA, and is a product of a reverse transcription reaction from an mRNA transcript. "RT-PCR" refers to reverse transcription polymerase chain reaction and results in production of cDNAs that are complementary to the mRNA template(s).

The term "oligonucleotide" is defined as a molecule comprised of two or more deoxyribonucleotides, preferably more than three. Its exact size will depend upon many factors which, in turn, depend upon the ultimate function and use of the oligonucleotide. The term "primer" as used herein refers to an oligonucleotide, whether occurring naturally as in a purified restriction digest or produced synthetically, which is capable of acting as a point of initiation of synthesis when placed under conditions in which synthesis of a primer extension product, which is complementary to a nucleic acid strand, is induced, i.e., in the presence of nucleotides and an inducing agent such as a DNA polymerase and at a suitable temperature and pH. The primer may be either single-stranded or double-stranded and must be sufficiently long to prime the synthesis of the desired extension product in the presence of the inducing agent. The exact length of the primer will depend upon many factors, including temperature, source of primer and the method used. For example, for diagnostic applications, depending on the complexity of the target sequence, the oligonucleotide primer typically contains 15-25 or more nucleotides, although it may contain fewer nucleotides. The factors involved in determining the appropriate length of primer are readily known to one of ordinary skill in the art.

As used herein, random sequence primers refer to a composition of primers of random sequence, i.e. not directed towards a specific sequence. These

sequences possess sufficient complementary to hybridize with a polynucleotide and the primer sequence need not reflect the exact sequence of the template.

"Restriction fragment length polymorphism" refers to variations in DNA sequence detected by variations in the length of DNA fragments generated by restriction endonuclease digestion.

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A standard Northern blot assay can be used to ascertain the relative amounts of mRNA in a cell or tissue obtained from plant or other tissue, in accordance with conventional Northern hybridization techniques known to those persons of ordinary skill in the art. The Northern blot uses a hybridization probe, e.g. radiolabelled cDNA, either containing the full-length, single stranded DNA or a fragment of that DNA sequence at least 20 (preferably at least 30, more preferably at least 50, and most preferably at least 100 consecutive nucleotides in length). The DNA hybridization probe can be labelled by any of the many different methods known to those skilled in this art. The labels most commonly employed for these studies are radioactive elements, enzymes, chemicals which fluoresce when exposed to untraviolet light, and others. A number of fluorescent materials are known and can be utilized as labels. These include, for example, fluorescein, rhodamine, auramine, Texas Red, AMCA blue and Lucifer Yellow. A particular detecting material is antirabbit antibody prepared in goats and conjugated with fluorescein through an isothiocyanate. Proteins can also be labeled with a radioactive element or with an enzyme. The radioactive label can be detected by any of the currently available counting procedures. The preferred isotope may be selected from <sup>3</sup>H, <sup>14</sup>C, <sup>32</sup>P, <sup>35</sup>S, <sup>36</sup>Cl, <sup>51</sup>Cr, <sup>57</sup>Co, <sup>58</sup>Co, <sup>59</sup>Fe, <sup>90</sup>Y, <sup>125</sup>I, <sup>131</sup>I, and <sup>186</sup>Re. Enzyme labels are likewise useful, and can be detected by any of the presently utilized colorimetric, gasometric fluorospectrophotometric, amperometric or spectrophotometric, techniques. The enzyme is conjugated to the selected particle by reaction with bridging molecules such as carbodiimides, diisocyanates, glutaraldehyde and the like. Many enzymes which can be used in these procedures are known and can be utilized.

The preferred are peroxidase,  $\beta$ -glucuronidase,  $\beta$ -D-glucosidase,  $\beta$ -D-galactosidase, urease, glucose oxidase plus peroxidase and alkaline phosphatase. U.S. Patent Nos. 3,654,090, 3,850,752, and 4,016,043 are referred to by way of example for their disclosure of alternate labeling material and methods.

As used herein, "individual" refers to human subjects as well as non-human subjects. The examples herein are not meant to limit the methodology of the present invention to human subjects only, as the instant methodology is useful in the fields of veterinary medicine, animal sciences and such.

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In one embodiment of the present invention, there is provided a method for detecting expression of a gene in blood from a subject, comprising the steps of: a) quantifying RNA from a subject blood sample; and b) detecting expression of the gene in the quantified RNA, wherein the expression of the gene in quantified RNA indicates the expression of the gene in the subject blood. An example of the quantifying method is by mass spectrometry.

In another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; and e) detecting expression of the genes in the ESTs, wherein the expression of the genes in the ESTs indicates the expression of the genes in the subject blood. Preferably, the subject is a fetus, an embryo, a child, an adult or a non-human animal. The genes are non-cancer-associated and tissue-specific genes. Still preferably, the amplification is performed by RT-PCR using random sequence primers or gene-specific primers.

In still another embodiment of the present invention, there is provided a method for detecting expression of one or more genes in blood from a subject, comprising the steps of: a) obtaining a subject blood sample; b) extracting DNA fragments from the blood sample; c) amplifying the DNA fragments; and d) detecting

expression of the genes in the amplified DNA product, wherein the expression of the genes in the amplified DNA product indicates the expression of the genes in the subject blood.

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In yet another embodiment of the present invention, there is provided a method for monitoring a course of a therapeutic treatment in an individual, comprising the steps of: a) obtaining a blood sample from the individual; b) extracting RNA from the blood sample; c) amplifying the RNA; d) generating expressed sequence tags (ESTs) from the amplified RNA product; e) detecting expression of genes in the ESTs, wherein the expression of the genes is associated with the effect of the therapeutic treatment; and f) repeating steps a)-e), wherein the course of the therapeutic treatment is monitored by detecting the change of expression of the genes in the ESTs. Such a method may also be used for monitoring the onset of overt symptoms of a disease, wherein the expression of the genes is associated with the onset of the symptoms. Preferably, the amplification is performed by RT-PCR, and the change of the expression of the genes in the ESTs is monitored by sequencing the ESTs and comparing the resulting sequences at various time points; or by performing single nucleotide polymorphism analysis and detecting the variation of a single nucleotide in the ESTs at various time points.

In still yet another embodiment of the present invention, there is provided a method for diagnosing a disease in a test subject, comprising the steps of:

a) generating a cDNA library for the disease from a whole blood sample from a normal subject; b) generating expressed sequence tag (EST) profile from the normal subject cDNA library; c) generating a cDNA library for the disease from a whole blood sample from a test subject; d) generating EST profile from the test subject cDNA library; and e) comparing the test subject EST profile to the normal subject EST profile, wherein if the test subject EST profile differs from the normal subject EST profile, the test subject might be diagnosed with the disease.

In still yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) genespecific primers; wherein the primers are designed in such a way that their sequences contain the opposing ends of two adjacent exons for the specific gene with the intron sequence excluded; and b) a carrier, wherein the carrier immobilizes the primer(s). Preferably, the gene-specific primers are selected from the group consisting of insulinspecific primers, atrial natriuretic factor-specific primers, zinc finger protein genespecific primers, beta-myosin heavy chain gene-specific primers, amyloid precurser protein gene-specific primers, and adenomatous polyposis-coli protein gene-specific primers. Further preferably, the gene-specific primers are selected from the group consisting of SEQ ID Nos. 1 and 2; and SEQ ID Nos. 5 and 6. Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease by detecting the quantitative expression levels of specific genes associated with the disease in the test subject and then comparing to the levels of same genes expressed in a normal subject. Such a kit may also be used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of a disease.

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In yet another embodiment of the present invention, there is provided a kit for diagnosing, prognosing or predicting a disease, comprising: a) probes derived from a whole blood sample for a specific disease; and b) a carrier, wherein the carrier immobilizes the probes. Such a kit may be applied to a test subject whole blood sample to diagnose, prognose or predict a disease by detecting the quantitative expression levels of specific genes associated with the disease in the test subject and then comparing to the levels of same genes expressed in a normal subject. Such a kit may also be used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of a disease.

Furthermore, the present invention provides a cDNA library specific for a disease, wherein the cDNA library is generated from whole blood samples.

The following examples are given for the purpose of illustrating various embodiments of the invention and are not meant to limit the present invention in any fashion.

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#### **EXAMPLE 1**

#### Construction of a cDNA library

RNA extracted from human tissues (including fetal heart, adult heart, liver, brain, prostate gland and whole blood) were used to construct unidirectional cDNA libraries. The first mammalian heart cDNA library was constructed as early as 1982. Since then, the methodology has been revised and optimal conditions have been developed for construction of human heart and hematopoietic progenitor cDNA libraries (Liew et al., 1984; Liew 1993, Claudio et al., 1998). Most of the novel genes which were identified by sequence annotation can now be obtained as full length transcripts.

#### **EXAMPLE 2**

#### Catalogue of blood cell ESTs

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Random partial sequencing of expressed sequence tags (ESTs) of cDNA clones from the blood cell library was carried out to establish an EST database of blood. The known genes as derived from the ESTs were categorized into seven major cellular functions (Hwang, Dempsey *et al.*, 1997).

#### **EXAMPLE 3**

### Differential screening of cDNA library

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cDNA probes generated from transcripts of each tissue were used to hybridize the blood cell cDNA clones (Liew et al., 1997). The "positive" signals which were hybridized with P-labelled cDNA probes were defined as genes which shared identity with blood and respective tissues. The "negative" spots which were not exposed to P-labelled cDNA probes were considered to be blood-cell-enriched or low frequency transcripts.

#### **EXAMPLE 4**

## Reverse transcriptase-polymerase chain reaction (RT-PCR) assay

RNA extracted from samples of human tissue was used for RT-PCR analysis (Jin et al. 1990). Three pairs of forward and reverse primers were designed for human cardiac beta-myosin heavy chain gene (βMyHC), amyloid precurser protein (APP) gene and adenomatous polyposis-coli protein (APC) gene. The PCR products were also subjected to automated DNA sequencing to verify the sequences as derived from the specific transcripts of blood.

#### EXAMPLE 5

## Detection of tissue specific gene expression in human blood using RT-PCR

The beta-myosin heavy chain gene (βMyHC) transcript (mRNA) is known to be highly expressed in ventricles of the human heart. This sarcomeric protein is important for heart muscle contraction and its presence would not be expected in other non-muscle tissues and blood. In 1990, the gene for human cardiac

βMyHC was completely sequenced (Liew et al. 1990) and was comprised of 4 exons and 42 introns.

The method of reverse transcription polymerase chain reaction (RT-PCR) was used to determine whether this cardiac specific mRNA is also present in human blood. A pair of primers was designed; the forward primer (SEQ ID No. 3) was on the boundary of exons 21 and 22, and the reverse primer (SEQ ID No. 4) was on the boundary of exons 24 and 25. This region of mRNA is only present in  $\beta$ MyHC and is not found in the alpha-myosin heavy chain gene ( $\alpha$ MyHC).

A blood sample was first treated with lysing buffer and then undergone centrifuge. The resulting pellets were further processed with RT-PCR. RT-PCR was performed using the total blood cell RNA as a template. A nested PCR product was generated and used for sequencing. The sequencing results were subjected to BLAST and the identity of exons 21 to 25 was confirmed to be from βMyHC (Figure 1A).

Using the same method just described, two other tissue specific genes - amyloid precursor protein (APP, forward primer, SEQ ID No. 7; reverse primer, SEQ ID No. 8) found in the brain and associated with Alzheimer's disease, and adenomatous polyposis coli protein (APC) found in the colon and rectum and associated with colorectal cancer (Groden *et al.* 1991; Santoro and Groden 1997) - were also detected in the RNA extracted from human blood (Figure 1B).

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#### **EXAMPLE 6**

#### Multiple RT-PCR analysis on a drop of blood from a normal/diseased individual

A drop of blood was extracted to obtain RNA to carry out quantitative RT-PCR analysis. Specific primers for the insulin gene were designed: forward primer (5'-GCCCTCTGGGGACCTGAC-3', SEQ ID No. 1) of exon 1 and reverse primer (5'-CCCACCTGCAGGTCCTCT-3", SEQ ID No. 2) of exons 1 and 2 of insulin gene. Such reverse primer was obtained by deleting the intron between the

exons 1 and 2. Blood samples of 4 normal subjects were assayed. It was found that the insulin gene is expressed in the blood and the quantitative expression of the insulin gene in a drop of blood is influenced by fasting and non-fasting states of normal healthy subjects (Figure 2). This very low level of expression of the insulin gene reflects the phenotypic status of a person and strongly suggests that there is a physiological and pathological role for its expression, contrary to the basal or illegitimate theory of transcription suggested by Chelly *et al.* (1989) and Kimoto (1998).

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Same quantitative RT-PCR analysis was performed using insulin specific primers on RNA samples extracted from a drop of blood from a normal healthy person, a person having late-onset diabetes (Type II) and a person having asymptomatic diabetes. It was found that the insulin gene is expressed differentially amongst subjects that are healthy, diagnosed as type II diabetic, and also in an asymptomatic preclinical patient (Figure 3).

Similarly, specific primers for the atrial natriuretic factor (ANF) gene were designed (forward primer, SEQ ID No. 5; reverse primer, SEQ ID No. 6) and RT-PCR analysis was performed on a drop of blood. ANF is known to be highly expressed in heart tissue biopsies and in the plasma of heart failure patients. However, atrial natriuretic factor was observed to be expressed in the blood and the expression of the atrial natriuretic factor gene is significantly higher in the blood of patients with heart failure as compared to the blood of a normal control patient.

Specific primers for the zinc finger protein gene (ZFP, forward primer, SEQ ID No. 9; reverse primer, SEQ ID No. 10) were also designed and RT-PCR analysis was performed on a drop of blood. ZFP is known to be high in heart tissue biopsies of cardiac hypertrophy and heart failure patients. In the present study, the expression of ZFP was observed in the blood as well as differential expression levels of ZFP amongst the normal, diabetic and asymptomatic preclinical subjects (Figure 4); although neither of the non-normal subjects has been specifically diagnosed as

suffering from cardiac hypertrophy and/or heart failure, the higher expression levels of the ZFP gene in their blood may indicate that these subjects are headed in that general direction.

It was hypothesized that a housekeeping gene such as glyceraldehyde dehydrogenase (GADH) which is required and highly expressed in all cells would not be differentially expressed in the blood of normal vs. disease subjects. This hypothesis was confirmed by RT-PCR using GADH specific primers (Figure 4). Thus, GADH is useful as an internal control.

Standardized levels of insulin gene or ZFP gene expressed in a drop of blood were estimated using a housekeeping gene as an internal control relative to insulin or ZFP expressed (Figures 5A & 5B). The levels of insulin gene expressed in each fractionated cell from whole blood were also standardized and shown in Figure 5C.

EXAMPLE 7

#### Human blood cell cDNA library

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In order to further substantiate the present invention, differential screening of the human blood cell cDNA library was conducted. cDNA probes derived from human blood, adult heart or brain were respectively hybridized to the human blood cDNA library clones. As shown in Figure 7, more than 95% of the "positively" identified clones are identical between the blood and other tissue samples.

DNA sequencing of randomly selected clones from the human whole blood cell cDNA library was also performed. This allowed information regarding the cellular function of blood to be obtained concurrently with gene identification. More than 20,000 expressed sequence tags (ESTs) have been generated and characterized to date, 17.6% of which did not result in a statistically significant match to entries in the

GenBank databases and thus were designated as "Novel" ESTs. These results are summarized in Figure 7 together with the seven cellular functions related to percent distribution of known genes in blood and in the fetal heart.

From 20,000 ESTs, 1,800 have been identified as known genes which may not all appear in the hemapoietic system. For example, the insulin gene and the atrial natriuretic factor gene have not been detected in these 20,000 ESTs but their transcripts were detected in a drop of blood, strongly suggesting that all transcripts of the human genome can be detected by performing RT-PCR analysis on a drop of blood.

In addition, approximately 400 novel genes have been identified from the 20,000 ESTs characterized to date, and these will be subjected to full length sequencing and open reading frame alignment to reduce the actual number of novel ESTs prior to screening for disease markers.

Analysis of the approximately 6,283 ESTs which have known matches in the GenBank databases revealed that this dataset represents over 1,800 unique genes. These genes have been catalogued into seven cellular functions. Comparisons of this set of unique genes with ESTs derived from human brain, heart, lung and kidney demonstrated a greater than 50% overlap in expression (Table 1).

20 <u>TABLE 1</u>

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Overlap of Genes Expressed in Blood \*

_	Tissues	ESTs**	Overlap in	Blood
	brain	134,000	60%	6
	heart	65,000	59%	6
	lung	60,200	58%	6
_	kidney 32	2,300	54%	

\* Estimated from limited known genes of about 1,800 as derived from the database of 6,297 ESTs from human blood cell library.

\*\* Obtained from the National Centre of Biotechnology Information (NCBI), U.S.A.

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#### EXAMPLE 8

#### Blood cell ESTs

The results from the differential screening clearly indicate that the transcripts expressed in the whole blood are reflective of genes expressed in all cells and tissues of the body. More than 95% of detectable spots were identical from two different tissues. The remaining 5% of spots may represent cell- or tissue-specific transcripts; however, results obtained from partial sequencing to generate ESTs of these clones revealed most of them not to be cell- or tissue-specific transcripts. Therefore, the negative spots are postulated to be reflective of low abundance transcripts in the tissue from which the cDNA probes were derived.

An alternative approach that was employed to identify transcripts expressed at low levels is the large-scale generation of expressed sequence tags (ESTs). There is substantial evidence regarding the efficiency of this technology to detect previously characterized (known) and uncharacterized (unknown or novel) genes expressed in the cardiovascular system (Hwang & Dempsey *et al.*. 1997). In the present invention, 20,000 ESTs have been produced from a human blood cell cDNA library and resulted in the identification of approximately 1,800 unique known genes (Table 2)

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In the most recent GenBank release, analysis of more than 300,000 ESTs in the database (dbESTs) generated more than 48,000 gene clusters which are thought to represent approximately 50% of the genes in the human genome. Only 4,800 of the dbESTs are blood-derived. In the present invention, 20,000 ESTs have

been obtained to date from a human blood cDNA library, which provides the world's most informative database with respect to blood cell transcripts. From the limited amount of information generated so far (i.e. 1,800 unique genes), it has already been determined that more than 50% of the transcripts are found in other cells or tissues of the human body (Table 2). Thus, it is expected that by increasing the number of ESTs generated, more genes will be identified that have an overlap in expression between the blood and other tissues. Furthermore, the transcripts for several genes which are known to have tissue-restricted patterns of expression (i.e. βMyHC, APP, APC, ANF, ZFP) have also been demonstrated to be present in blood.

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Most recently, a cDNA library of human hematopoietic progenitor stem cells has also been constructed. From the limited set of 1,000 ESTs, there are at least 200 known genes that are shared with other tissue related genes (Claudio *et al.* 1998).

Table 2 demonstrates the expression of known genes of specific tissues in blood cells. Previously, only the presence of "housekeeping" genes would have been expected. Additionally, the presence of at least 25 of the currently known 500 genes corresponding to molecular drug targets was detected. These molecular drug targets are used in the treatment of a variety of diseases which involve inflammation, renal and cardiovascular function, neoplastic disease, immunomodulation and viral infection (Drews & Ryser, 1997). It is expected that additional novel ESTs will represent future molecular drug targets.

TABLE 2

# Comparison of 1,800 Unique Genes Identified in the Blood Cell cDNA Library to Genes Previously Identified in Specific Tissues

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Gene Identification	No. of ESTs	Accession No.			Tiss	ue D	istr	ibuti	on
Gene identification			Ві	Br	H	K	Li	Lu	
100 kDa coactivator	2	U22055		+	$\vdash$		_	+	
10kD protein (BC10)	2	AF053470		+	+		+	+	
14-3-3 epsilon	2	U54778		+	+		-	+	
14-3-3 protein	11	U28964		+	+		+	$\vdash$	<u> </u>
15 kDa selenoprotein	1	AF051894		+	+	-		+	
(SEP15)							<u> </u>		
1-phosphatidylinositol-4- phosphate 5-kinase isoform C	1	578798							
23 kD highly basic protein	21	X56932	+	+	+	+	+	+	
2-5A-dependent RNase	1	L10381							
2'-5'oligoadenylate synthetase 2 (OAS2)	4	M87284	В						
26S proteasome subunit 11	1	AF086708							
36 kDa phosphothyrosine protein	2	AJ223280	T		+				
3-7 gene product (non- exact 86%aa)	1	D64159							
3-phosphoglycerate dehydrogenase (PGAD)	1	AF006043	Т	+	+			+	
3-prime-phosphoadenosine 5-prime-phosphosulfate synthase 1 (PAPSS1)	2	U53447	+	+	+	+		+	
46kd mannose 6- phosphate receptor (MPR46) (low match)	1	X56257							
5-aminoimidazole 4- carboxamide ribonucleotide transformylase	1	D89976							
5'-nucleotidase	3	D38524	T	+	l		+		
6-phosphofructo-2- kinase/fructose-2,6- biphosphatase 4 (PFKFB4)	1	D49818		+					
6-phosphofructo-2- kinase/fructose-2,6- bisphosphatase (PF2K)	1	AF041829							
71 kd heat shock cognate protein hsc70	23	Y00371							
76 kDa membrane protein (P76)	2	U81006		+	+	+	+	+	
8-oxóguanine DNA glycosylase (OGG1)	1	U96710	В				+	+	
a disintegrin and metalloprotease domain 10 (ADAM10)	1	AF009615	T				+		
a disintegrin and metalloprotease domain 8 (ADAM8)	1	D26579	В	+					
A kinase anchor protein 95 (AKAP95)	2	Y11997	B, T activated		+			+	
A kinase anchor protein, 149kD (AKAP149)	2	X97335		+	+	+		+	

A4 differentiation-	1	U93305							
dependent protein (A4), triple LIM domain protein						1			
(LMO6), and						ł			l
synaptophysin (SYP);						1			
calcium channel alpha-1									[
subunit (CACNA1F)						<u> </u>			
ABL and putative M8604	1	U07561							
Met protein Absent in melanoma 1	1	U83115		+				+	
(AIM1)	,	003113		•		l		ľ	
accessory proteins	2	Z31696		+	+				
BAP31/BAP29			1						
(DXS1357E)	2	X12966	+	+	+	+	+	+	
acetyl-Coenzyme A acvitransferase	2	A12900	*	т .	_	-	T .	*	
(peroxisomal 3-oxoacyl-						1			
Coenzyme A thiolase)						}			
(ACAA)									
acetyl-Coenzyme A transporter (ACATN)	1	D88152	Tlymphoma	+	+	l			
acidic 82 kDa protein	4	U15552						<u> </u>	
acidic protein rich in	1 7	Y07969	В	+	+		+	+	<del> </del>
leucines (SSP29)	'	107909	"	Ŧ	\		•	[	
Aconitase 2, mitochondrial	1	U80040	+	+	+	+		+	
(ACO2)	1				L	L			
actin binding protein	1	AF059569							
MAYVEN actin, beta (ACTB)	150	X04098	<del>                                     </del>	+	+	<del> </del>	+		
	158	1	T, B	+		ļ			
actin, beta (ACTB) (non- exact, low match 73%)	1	M10277							
actin, gamma (low score)	1	K00791	<del></del>						
,	4	X04098	+	+	+	+	+	+	high in many libraries
actin, gamma 1 (ACTG1)	1		T				,		riigit iii mariy libraries
actin-binding LIM protein (ABLIM)	4	D31883	1	+	+	+		+	
Actinin, alpha 1 (ACTN1)	8	M95178	<del> </del>	+	+	+		+	
actinin, alpha 4 (ACTN4)	1	D89980	· · · ·	+	+		+	_	
	<del> </del>	L13738	В	+		_		+	· · · · · · · · · · · · · · · · · · ·
activated p21cdc42Hs kinase (ACK)	'	L13/30		Τ.				T	
activated RNA polymerase	1-1-	X79805	+	+	+	+		+	
II transcription cofactor 4	1								
1001			1		L	L			
(PC4)									
activating transcription	1	X55544			+		!		,
activating transcription factor 1 (ATF1)				1			+		
activating transcription factor 1 (ATF1) activating transcription	1	X55544 X15875		+	+		+		
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2)				+			+	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive	1	X15875		+				+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67)	1	X15875		+				+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4)	1 2	X15875 M86842			+				
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene	1	X15875	+	+		+		+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4)	1 2	X15875 M86842	+		+	+			
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX)	1 1 1	X15875 M86842 U01147 U03254	+		+	+			
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-	1 2	X15875 M86842 U01147	+		+	+			
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM)	1 1 1 2	X15875 M86842 U01147 U03254 M16827		+	+		+	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A	1 1 1	X15875 M86842 U01147 U03254	+		+	+			
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long	1 1 1 2	X15875 M86842 U01147 U03254 M16827		+	+		+	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL)	1 1 1 2 3	X15875 M86842 U01147 U03254 M16827 D43682		+	+		+	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long	1 1 1 2	X15875 M86842 U01147 U03254 M16827	+	+	+		+	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase	1 1 1 2 3	X15875 M86842 U01147 U03254 M16827 D43682	+	+	+		+	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD)	1 2 1 1 2 2 3 3 3	X15875 M86842 U01147 U03254 M16827 D43682 M62840	+	+	+ +		+ +	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-Coanzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%)	1 1 1 2 3 3 3 2 1	X15875 M86842 U01147 U03254 M16827 D43682 M62840 U91930 AC005328	+	+ +	+ + + +	+	+ +	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD)	1 1 1 2 3 3 3 2	X15875 M86842 U01147 U03254 M16827 D43682 M62840 U91930	+	+	+ +		+ +	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) (non-exact 59%) adaptor complex sigma3B	1 1 1 2 3 3 3 2 1	X15875 M86842 U01147 U03254 M16827 D43682 M62840 U91930 AC005328	+	+ +	+ + + +	+	+ +	+	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) (non-exact 59%) adaptin, gamma (ADTG) adaptor complex sigma3B (AP3S3)	1 2 1 2 3 3 2 1 1 1 2	X15875 M86842 U01147 U03254 M16827 D43682 M62840 U91930 AC005328 Y12226 X99459	+	+ + +	+ + + +	+	+ +	+ +	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-Coanzyme A dehydrogenase, C-4 to C- 12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) adaptin, delta (ADTD) adaptor complex sigma3B (AP3S3) adaptor protein p150	1 2 1 2 3 3 2 1 1 1 2 1 2 1 1	X15875 M86842 U01147 U03254 M16827 D43682 M62840 U91930 AC005328 Y12226 X99459 Y08991	+	+ + + + + + + + + + + + + + + + + + + +	+ + + + +	+	+ +	+ +	
activating transcription factor 1 (ATF1) activating transcription factor 2 (ATF2) activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) active BCR-related gene (ABR) acyl-CoA oxidase (AOX) acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain (ACADM) acyl-Coenzyme A dehydrogenase, very long chain (ACADVL) acyloxyacyl hydrolase (neutrophil) (AOAH) adaptin, delta (ADTD) (non-exact 59%) adaptin, gamma (ADTG) adaptor complex sigma3B (AP3S3)	1 2 1 2 3 3 2 1 1 1 2	X15875 M86842 U01147 U03254 M16827 D43682 M62840 U91930 AC005328 Y12226 X99459	+	+ + +	+ + + +	+	+ +	+ +	

adducin 1 (alpha) (add1)	3	129296	+ 1	+	+	+		+	
1	3	U37122	-в. w	+	+	L.	+	+	
adducin 3 (gamma) (ADD3)			D, VV						
adenine nucleotide translocator 2 (fibroblast) (ANT2)	2	M57424		+	+		+		
adenine nucleotide translocator 2 (fibroblast) (ANT2) (non-exact 81%)	1	J02683							
adenine nucleotide translocator 2 (fibroblast) (ANT2) (non-exact, 79%)	7	J02683							
adenine nucleotide translocator 2 (fibroblast)	1	J02683							-
(ANT2) (non-exact, 86%) adenine nucleotide translocator 3 (liver)	3	J03592		+	+		+	+	
(ANT3) adenosine deaminase,	6	U18121		+	+		+		
RNA-specific (ADAR) adenylate cyclase 3 (ADCY3)	2	AF033861		+	+	+	+	+	
adenylate cyclase 7 (ADCY7)		D25538							
adenylate kinase 2 (AK2)	2	U39945	<del> </del>	+	+	-	+	+	
adenylate kinase 3 (AK3) (non-exact, 67%)	1	X60673				-			
adenylyl cyclase- associated protein (CAP)	28	M98474	T T	_	+		+		
adipose differentiation- related protein; adipophilin (ADFP)	1	X97324			+		+	+	
ADP-ribosylation factor 1 (ARF1)	13	M84326	***************************************	+	+		+	+	
ADP-nbosylation factor 3 (ARF3)	2	M33384		+	+		+		
ADP-ribosylation factor 4 (ARF4)	1	M36341	Tlymphoma	+	+			+	
ADP-ribosylation factor 5 (ARF5)	1	M57567			+	+	+	+	
ADP-nbosylation factor domain protein 1, 64kD (ARFD1)	1	L04510		+					
ADP-ribosyltransferase (NAD+; poly (ADP-ribose) polymerase) (ADPRT)	4	M32721	+	+	+	+	+	+	
adrenergic, beta, receptor kinase 1 (ADRBK1)	2	X61157	В	+			+		
adrenoleukodystrophy-like 1 (ALDL1)	1	AJ000327							
AE-binding protein 1 (AEBP1) (non-exact, 62%)	1	D86479							
AF-17	1	U07932	<u> </u>		L				
A-gamma-globin	1	V00514							
A-gamma-globin (chromosome 11 allele)	1	J00176							
agammaglobulinaemia tyrosine kinase (ATK)	1	U78027							
ÁHNAK nucleoprotein (desmoyokin) (AHNAK)	4	M80899	+	+	+	+		+	
alanyl (membrane) aminopeptidase (aminopeptidase N, aminopeptidase M, microsomal aminopeptidase, CD13, p150) (ANPEP)	1	X13276			+		+		
alcohol dehydrogenase 5 (class III), chi polypeptide (ADH5)	1	M29872	·						
aldehyde dehydrogenase 1, soluble (ALDH1)	1	AF003341		+			+	+	

WO 00/40749									
aldehyde dehydrogenase 10 (fatty aldehyde	2	U75286							
dehydrogenase) (ALDH10) aldehyde reductase 1 (low	3	J04795	В	+	+	+	+		
Km aldose reductase) (ALDR1)									
aldo-keto reductase family 1, member A1 (aldehyde	2	J04794	В	+	+		+		
reductase) (AKR1A1) aldo-keto reductase family	1	D17793		+	+	+		+	
1, member C3 (3-alpha hydroxysteroid dehydrogenase, type II) (AKR1C3)									
aldo-keto reductase family 7, member A2 (aflatoxin aldehyde reductase)	1	Y16675		+	+		+	+	
(AKR7A2) aldolase A, fructose- bisphosphate (ALDOA)	7	X12447		+	+		+		
aldolase C, fructose- bisphosphate (ALDOC)	2	X05196		+	+		+		
alkaline phosphatase, liver/bone/kidney (ALPL)	1	4502062							
ALL-1 (=L04731;L04284 HRX)	4	Z69780							
alpha mannosidase II	1	D55649		+			+		
isozyme alpha thalassemia/mental retardation syndrome X- linked (ATRX)	3	U75653	+	+	+	+		+	
alpha-2 macroglobulin	7	Z11711							
alpha-2-globin	2	V00516							
alpha-2-macroglobulin receptor/lipoprotein receptor protein (A2MR/LRP)	1	U06985							
alpha-polypeptide of N- acetyl-alpha- glucosaminidase (HEXA)	1	M13520							
alpha-spectrin	1	X86901		1					
alpha-subunit of Gi2 a (GTP-binding signal transduction protein)	1	X07854							
aminin receptor 1 (67kD); Ribosomal protein SA (LAMR1)	2	J03799		+	+		+	+	
aminolevulinate, delta-, dehydratase (ALAD)	1	X64467		+					
amino-terminal enhancer of split (AES)	2	X73358	+	+	+	<u> </u>		+	
amino-terminal enhancer of split (AES)	1	U04241	В	+	+	<u> </u>	+	+	
AMP deaminase isoform L (AMPD2)	8	M91029		+			L	+	
amphiphysin (Stiff-Mann syndrome with breast cancer 128kD autoantigen) (AMPH)		U07616	В	+				+	
amphiphysin (Stiff-Mann syndrome with breast cancer 128kD autoantigen) (AMPH)(non-exact, 68%)	1	U07616							
amphiphysin (Stiff-Mann syndrome with breast cancer 128kD autoantigen) (AMPH)(non-exact, 68%)	1	U07616							
amphiphysin II	4	U87558		+	+		+		
amphiphysin II (67%aa amphiphysin?)	1	AF068915							
amphiphysin II (non-exact 69% aa)	1	AF001383							
		<del> </del>	12						·

amphiphysin-like (AMPHL)	1	U68485	T	+	+	L]			
amphiphysin-like (AMPHL) (low match)	1	AF068918							
AMY-1	1	D50692	В, Т				+		
amyloid beta (A4) precursor protein-binding, family B, member 1 (Fe65) (APBB1)	1	L77864		+	+	+		+	
amyloid beta (A4) precursor-like protein 2 (APLP2)	6	L27631	T lymphoma	+	+		+	+	·
ankyrin 3, node of Ranvier (ankyrin G) (ANK) (non- exact, 50%)	1	U43965							
annexin I (lipocortin I) (ANX1)	1	X05908		+	+	+		+	
annexin II	1	D28364							
annexin II (lipocortin II; calpactin I, heavy polypeptide) (ANX2)	7	D00017	+	+	+	+	+	+	high in many libraries
annexin IV (placental anticoagulant protein II) (ANX4)	1	M19383		+	+	+	+	+	
annexin V (endonexin II) (ANX5)	2	M21731		+	+	+		+	
annexin V (endonexin II) (ANXV)	1,	M19384		+	+	+		+	
annexin VI (p68) (ANX6)	6	Y00097		+	+	+		+	
annexin VII (synexin) (ANX7)	1	J04543		+	+	+		+	
antigen identified by monoclonal antibodies 12E7, F21 and O13 (MIC2)	2	M16279		+	+	+		+	
antigen identified by monoclonal antibodies 4F2, TRA1.10, TROP4, and T43 (MDU1)	3	J02939		+	+	+	+	+	
antigen TQ1									
anti-oxidant protein 2 (non- selenium glutathione peroxidase, acidic calcium- independent phospholipase A2) (KIAA0106)	1	D14662		+	+	+	+	+	
APEX nuclease (multifunctional DNA repair enzyme) (APEX)	5	X66133		+	+		+	+	
Apolipoprotein L (APOL) (59%aa)	1	Z82215							
apoptosis inhibitor 1 (API1)	1	L49431		+	+	+	+	+	
apoptosis inhibitor 4 (survivin) (API4)	1	U75285	B, W	+	+		+		
apoptosis inhibitor 5 (API5)	1	U83857	T lymphoma	+			+		
apoptosis specific protein (ASP)	1	Y11588	В	+			+	+	
apoptotic protease activating factor (APAF1)	1	AF013263	В	+	+		+		
aquaporin 3 (AQP3)	1	AB001325	1				+		
aquaponn 9 (AQP9)	7	AB008775	Tactivated				+		
arachidonate 12- lipoxygenase (ALOX12)	1	M58704	T				+	+	
arachidonate 5- lipoxygenase-activating protein (ALOX5AP)	3	X52195	+	+		+		+	
ariadne homolog (ARI)	1	AJ009771	+	+	+	+		+	
ariadne-2 (D. melanogaster) homolog (all-trans retinoic acid inducible RING finger) (ARI2)	1	AF099149	+	+	+	+		+	

ARP1 (actin-related protein	1	X82206		+			+		
1, yeast) homolog A							.		
(centractin alpha)					i				
(ACTR1A)									
ARP2 (actin-related protein	9	AF006082		+	+		+	+	
2, yeast) homolog (ACTR2)	-								
ARP2/3 protein compex	5	AF006085	T activated.	+	+		+		
subunit 34 (ARC34)			W						
Arp2/3 protein compex	6	AF006084	monocyte	+	+		+		
subunit p41 (ARC41)		/ 000007	stimulated		1				
Arp2/3 protein compex	1	AF006084						_	
subunit p41 (ARC41)) (low		AI 000004							
imatch)		1						1	
	20	AF017807		+	+	-	+	+	
Arp2/3 protein complex	20	AF017807		•	'	1	'	'	•
subunit p16 (ARC16)		AF006087		+	+	-	+	+	
Arp2/3 protein complex	2	AFUUOUOI		, T	1		'	'	
subunit p20 (ARC20)		10000000			┡—	<b>_</b>	+	+	
Arp2/3 protein complex	3	AF006086	W		l			T	
subunit p21(ARC21)					<u> </u>	<u> </u>			
ARP3 (actin-related protein	11	AF006083	W		+		+	+	
3, yeast) homolog (ACTR3)						_			
arrestin, beta 2 (ARRB2)	1	AF106941	B, T, W	+	+		+	1	
arsA (bacterial) arsenite		AF047469	B, T	+	1	-	+		
transporter, ATP-binding,	'	'" 5 71 705					'	1	
homolog 1 (ASNA1)					1		1		
aryl hydrocarbon receptor	2	AF044288	В	+	+	<del>                                     </del>	+	_	
inuclear translocator-like		AI 077200		1	'				
(ARNTL)			1	Ì					
	1	U31913	+	+	+	+	_	+	
aryl hydrocarbon receptor-	'	031913	, ,	T .	'	'		'	
interacting protein (AIP)		VENZEZ	T and the land	<del></del>			+	_	
arylsulfatase A (ARSA)	1	X52151	Tactivated	+	ł		_		
asialoglycoprotein receptor	1	M11025					+	+	
2 (ASGR2)					1	ļ			
asparaginyl-tRNA	3	D84273	<del></del>	+	+	一	+		
synthetase (NARS)			1		l				
aspartyl-tRNA synthetase	1	J05032	В	+	+	$\vdash$	+		
(DARS)	'	300002							1
	1	U82828	B. T	-	+	<del>                                     </del>	+		
ataxia telangiectasia mutated (includes	•	002020	] 5, '		1		1	1	Į.
		1			1	1			
complementation groups A,		1				1			
C and D) (ATM)	1	AF034373	B. T	+	+	├	-	+	
ataxin-2-like protein A2LP	'	Ar034373	activated	*	1			'	1
(A2LG)		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	activated	+	<b>├</b>	├	+	⊢	
ÀTF6	1	AF005887		+		<u> </u>		l	
ATP binding cassette	1	U88667							
transporter (ABCR) (non-			ł	•					į.
exact 80%)			Į.	i			ļ		
ATP synthase (F1-ATPase)	1	X59066	<u> </u>		i e		1		
alpha subunit.	i i	"	ŀ	ļ					}
mitochondrial	i								1
ATP synthase beta subunit	1	M19482			<del> </del>	<u> </u>	_		
gene	•	11110-102							
ATP synthase, H+		X60221	<del>                                     </del>	+	+	+	├──	+	
transporting, mitochondrial	'	NOUZZ!	'	Ι΄.	1	l .	ŀ	ļ .	
FO complex, subunit b,		1	i	l		1	l	1	
					1	1			
isoform 1 (ATP5F1) ATP synthase, H+	<del></del>	X69907	Tactivated	+	+	├──	+	+	<del></del>
Air synthase, mt	1	V09901	activated	'	1	l	Ι΄	Ι΄.	
transporting, mitochondrial		i	1		1	1	l		
F0 complex, subunit c		i	į	1	1	1	l	i	
(subunit 9), isoform 1		}	ł		1		l	1	
(ATP5G1)			<del> </del>		₩	<b></b> -	├	├—	
ATP synthase, H+	3	D14710			ĺ				
transporting, mitochondrial		1	ì		1	ŀ	1	l	
F1 complex, alpha subunit,		l	1		}	ŀ	l		
isoform 1, cardiac muscle		1			1	1	ĺ	1	
(ATP5A1)					<b>-</b>	<b> </b>	<u> </u>	<u> </u>	
ATP synthase, H+	1	D14710				1	l	l	
transporting, mitochondrial		1				1	l	l	
F1 complex, alpha subunit,		1	1		1	1	1	l	
lisoform 1. cardiac muscle		1	1	1	1	1	l	ŀ	
(ATP5A1) (low match)		<u> </u>	<u>                                     </u>		<u> </u>	<u> </u>	<u> </u>		<u> </u>

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ATP synthase, H+ 2 M27132 transporting, mitochondrial	
F1 complex, beta polypeptide (ATP5B)	
ATP synthase, H+ 1 D16563 W + + + + + + transporting, mitochondrial F1 complex, gamma polypeptide 1 (ATP5C1)	
ATP synthase, H+ 1 AF092124 + + + + + + + + transporting, mitochondrial F1F0, subunit g (ATP5JG)	
ATP/GTP-binding protein 2 U73524 + + + + + + (HEAB)	
ATPase, Ca++ 5 Z69881 + transporting, ubiquitous (ATP2A3)	
ATPase, H+ transporting, 2 D89052 + + + + + + +   +     lysosomal (vacuolar proton   pump) 21kD (ATP6F)	
ATPase, H+ transporting, 1 X76228 + + + + + + hysosomal (vacuolar proton pump) 31kD (ATP6E)	
ATPase, H+ transporting, 5 X69151 + + + + + +   +     Ilysosomal (vacuolar proton   pump) 42kD; Vacuolar   proton-ATPase,   subunit C; V-ATPase,   subunit C (ATP6D)	
ATPase, H+ transporting, 3 L09235 + + +   high specific pump   1	
ATPase, H+ transporting, 6 X62949 + + + + + + + + + + + + + + + + + +	
ATPase, H+ transporting, 2 AF038954 + + + + + high in test lysosomal (vacuolar proton pump), member J (ATP6J)	is
ATPase, H+ transporting, 1 D16469 + + + + + Hysosomal (vacuolar proton pump), subunit 1 (ATP6S1)	!
ATP-binding cassette 50 1 AF027302 + + + + + + + (ABC50)	:
ATP-binding cassette 1 AF047690 protein M-ABC1 (mitochondrial)	.*
ATP-dependent RNA 1 AJ010840 T lymphoma + + + helicase	
autoantigen (Hs.75528) 2 L05425 Tactivated +	
autoantigen (Hs.75528) 1 L05425 (non-exact 84%)	
autoantigen (Hs.75682) 1 U17474 B + + +	
autoantigen La/SS-B 1 Z35127	
axin (AXIN1) 1 AF009674 T +	
axonemal dynein heavy 1 AJ000522 +	
chain (DNAH17)	
chain (DNAH17) BAI1-associated protein 3 1 AB017111 (BAIAP3) (non-exact 54%)	
chain (DNAH17) BAI1-associated protein 3 1 AB017111 (BAIAP3) (non-exact 54%) basement membrane- induced gene (ICB1)	
chain (DNAH17) BAI1-associated protein 3	
chain (DNAH17) BAI1-associated protein 3	
chain (DNAH17) BAI1-associated protein 3 (BAIAP3) (non-exact 54%) basement membrane- induced gene (ICB1) basic leucine zipper nuclear factor 1 (JEM-1) (BLZF1) basic transcription factor 3 5 X74070 + + + + + + +	

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B-cell CLL/lymphoma 6 (zinc finger protein 51) (BCL6)	1	U00115		+	+				
B-cell translocation gene 1, anti-proliferative (BTG)	1	X61123			+			+	
BCL2/adenovirus E1B 19kD-interacting protein 2 (BNIP2)	1	U15173	В	+			+	+	
BCL2/adenovirus E1B 19kD-interacting protein 3- like (BNIP3L)	2	AF067396		+	+	+		+	
beclin 1 (coiled-coil, myosin-like BCL2- interacting protein) (BECN1)	1	AF077301	8	+	+		+		
beta-1,2-N- acetylglucosaminyltransfer ase II (MGAT2)	2	U15128							
beta-2-microglobulin (B2M)	63	S82297	+	+	+	+	+	+	high in invasive prostate tumor
beta-hexosaminidase alpha chain (HEXA)	1	M16411							
beta-tubulin	7	V00599	+	+	+	+	+	+	high in many libraries
beta-tubulin (non-exact, 76%)	1	AF070561				·			
beta-tubulin, pseudogene	1	J00315							
BING4	7	Z97184							
biotinidase (BTD) (non-eact 62%)	1	U03274							
biotinidase (BTD) (non- exact 70%)	1	U03274							
biotinidase (BTD) (non- exact, 56%)	1	U03274							
BIOTINIDASE PRECURSOR	1	P43251							
biphenyl hydrolase-like (serine hydrolase) (BPHL)		X81372		+			+		
bone marrow stromal cell antigen 1 (BST1)		D21878					+	_	
box-dependent myc- interacting protein isoform BIN1-10 (BIN1)	1	AF043900							
box-dependent myc- interacting protein isoform BIN1-10 (BIN1) (non-exact, 64%)	1	AF043900							
brain my047 protein	1	AF063605	T	+	+		+		
branched chain keto acid dehydrogenase E1, alpha polypeptide (maple syrup urine disease) (BCKDHA)	3	Z14093	T	+	+		+		,
BRCA1 associated protein- 1 (ubiquitin carboxy- terminal hydrolase) (BAP1)	1	D87462	+	+	+	+			
BRCA1, Rho7 and vatl genes, and ipf35	1	L78833							
breakpoint cluster region protein, uterine leiomyoma, 1; barrier to autointegration factor (BCRP1)	2	AF044773		+	+				
breakpoint cluster region protein, uterine leiomyoma, 2 (BCRP2)	2	AF044774		+	+		+	+	
breast cancer anti-estrogen resistance 3 (BCAR3) (non-exact 73%)		U92715		-3					
bromodomain-containing protein, 140kD (peregrin) (BR140)	2	M91585		+					
Bruton's agammaglobulinemia tyrosine kinase (Btk)	1	U13424							

	U78027							
1	U78027							
1			لــــــــــــــــــــــــــــــــــــــ					
6	Y09943	+	+	+	+		+	
1	U78027	+	+	+	+		+	
1	U01923		+	+		+		
4	AF053304	+	+	+	+		+	
		+			+		+	
7	U90543		+	+		+		
1	AB020625.1							
2	U80744		+	+				
2			+			+	Ш	
1								
1	AF069765		+	+	+		+	
1	AF101264	В	+	+		+		
		8		+				
3	M94859	T	+			+	+	
5	X04366		+	+		+	+	
5	M23254		+	+	i i			
1	X04106		+	+		+	+	
3	D16217					+		
2	D83735		+		+		+	
1	D83735	В, Т	+		T	+		
1	D83735							
3	AF013759	В		+		+	+	
4	L05912							
1								
					_		_	
1	U03271	+	+					
	1 1 6 1 1 4 4 7 1 1 2 2 1 1 1 7 6 3 5 5 5 1 1 3 2 1 1 1 3 4 1 1 1 6 6 2 2	1	1	1	1	1	1	1

capping protein (actin filament), gelsolin-like (CAPG)	8	M94345	+	+		+		+	
carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase (CAD)	1	D78586	+	+	+	+		+	
carbonic anhydrase V,	1	L19297		+			+		
mitochondrial (CA5) carboxypeptidase D (CPD)	3	U65090	В	+-	+				
camitine/acvlcamitine	<del></del>	Y10319		+	+	_	+		
translocase (CACT)									
Cas-Br-M (murine) ecotropic retroviral transforming sequence (cbl)	2	X57110					+		
casein kinase 1, alpha 1 (CSNK1A1)	1	L37042	+	+	+	+		+	
casein kinase 2, alpha 1 polypeptide (CSNK2A1)	2	M55265	В	+			+	+	
casein kinase I gamma 3L (CSNK1G3L)	1	AF049090.1	<del></del>						
casein kinase II alpha	1	X69951							
subunit(=S72393) CASP8 and FADD-like	4	AF015450		+	+	+	+	+	
apoptosis regulator (CFLAR)									
caspase 1, apoptosis- related cysteine protease (interleukin 1, beta, convertase) (CASP1)	7	U13697	+			+			
caspase 10, apoptosis- related cysteine proteas (CASP10)	1	U60519	B, T activ lymph		Ī		+		
caspase 3, apoptosis- related cysteine protease (CASP3)	3	U13737	В, Т	+	+	+	+		
caspase 4, apoptosis- related cysteine protease (CASP4)	6	U25804	+	+	+	+		+	
caspase 5, apoptosis- related cysteine protease (CASP5)		U28015			+				
caspase 8, apoptosis- related cysteine protease (CASP8)	2	X98173		+		+		+	
caspase 9, apoptosis- related cysteine protease (CASP9)	1	U56390	В			+	+		
catalase (CAT)	5	X04076	В	+	+		+	<u> </u>	
catechol-O- methyltransferase (COMT)	1	M65213		+	+		+		
catenin (cadherin- associated protein), alpha 1 (102kD) (CTNNA1)	6	D14705		+	+				
cathelicidin antimicrobial peptide (CAMP)	1	X89658	В						
cathepsin B (CTSB)	4	L16510			+		+	+	
cathepsin C (CTSC)	3	U79415		+	+	+		+	
cathepsin D (lysosomal aspartyl protease) (CTSD)	4	M11233		+	+		+		
cathepsin E (CTSE)	1	J05036		<u> </u>			+		
cathepsin G (CTSG)	1	M16117	T, W	0.01:	+	ļ.	_	<u> </u>	
cathepsin S (CTSS)	34	M86553	B, Monocyt lym	e stim		J, I	+	+	
cathepsin W (lymphopain) (CTSW)	4	AF013611					_	_	
CBF1 interacting corepressor CIR (=U03644 recepin)		AF098297							

CCAAT/enhancer binding protein (C/EBP), alpha (CEBPA)	3	X87248		+	+	+		*	
CCAAT/enhancer binding protein (C/EBP), delta (CEBPB)	1	563168			+		+	+	
CCAAT-box-binding transcription factor (CBF2)	2	M37197	Tlymphoma			+	+		
CCR5 receptor (CCR5) (non-exact?)	1	AF011504							
CD14 antigen (CD14)	11	M86511	+	+	+	+		+	
CD18 (=M95293)	4	X64071						Ш	
CD1C antigen, c	2	M28827						+	
CD2 antigen (cytoplasmic tail)-binding protein 2 (CD2BP2)	1	AF104222							
CD2 antigen (p50), sheep red blood cell receptor (CD2)	4	M14362	+		+	+		+	
CD2 cytoplasmic tail- binding protein 1 (CD2BP1)	2	AF038602					+		
CD20 antigen (CD20)	1	X12530						L	
CD20 receptor (S7)	1	X07203				_	_		
CD22 antigen (CD22)	1	U62631	В			ļ			
CD24 signal transducer	1	M58664	<u> </u>			<u> </u>	<u> </u>	<u> </u>	
CD33 antigen (gp67) (CD33)	1	M23197	ļ				+		
CD33 antigen-like 2; OB binding protein-2 (CD33L2) (non-exact, 68%)	1	U71383							
CD33L2 (61% aa)	1	D86359							
CD36 antigen (collagen type I receptor, thrombospondin receptor) (CD36)	7	M98398	Tlymphoma		+		+	+	
CD37 antigen (CD37)	5	X14046	+	+		+		+	
CD38 aft	1	D84277	1						
CD39 antigen (CD39)	1	U87967	В	+			+	+	
CD3D antigen, delta polypeptide (TiT3 complex) (CD3D)	1	X03934			+	+		+	
CD3E antigen, epsilon polypeptide (TiT3 complex) (CD3E)	1	X03884	+			+			
CD3G antigen, gamma polypeptide (TIT3 complex) (CD3G)	2	X06026	W				+		
CD3Z antigen, zeta polypeptide (TiT3 complex) (CD3Z)	2	J04132	+			+			
CD3-zeta (clone pBS NK1)	1	X55510							
CD4 (low match)	1	S68043							
CD4 antigen (p55) (CD4)	4	M12807		+	+		+	L	
CD44 antigen (homing function and Indian blood group system (CD44)	6	X56794	W				+	+	
CD48 antigen (B-cell membrane protein) (CD48)	3	X06341	+	+	+	+		+	
CD53 antigen (CD53)	10	L11670	+	+		+		+	
CD53 antigen (CD53) (low match)	1	M60871							
CD63 antigen (melanoma 1 antigen) (CD63)		M59907							
CD68 antigen (CD68)	2	S57235		+	+		+	+	

CD74 antigen (invariant	72	K01144	+	+ }	+	+	+	+	high in many libraries
polypeptide of major	Ì			ļ			ļ		
histocompatibility complex, class II antigen-associated)				- 1					ļ.
(CD74)			1	}					
CD79A antigen	2	M80462			+				
(immunoalobulin-	_		!			1			
associated alpha) (CD79A)									
CD79B antigen	2	M89957	+				-		
(immunoglobulin-									
associated beta) (CD79B)		1157454	+			+		+	
CD8 antigen, alpha	2	M27161	T			T	- 1	•	1
polypeptide (p32) (CD8A)		X13445	<del>- w -  </del>				-		
CD8 antigen, beta		×13443	• • •						
polypeptide 1 (p37) (CD8B1)									
CD81 antigen (target of		M33680		+	+			+	
antiproliferative antibody 1	-								]
(CD81)									
CD83 antigen (activated B	1	Q01151	В	+	+			+	
lymphocytes,						ŀ			
mmunoglobulin									1
superfamily) (CD83)		1105000		+	+	<b></b>		+	
CD84 antigen (leukocyte antigen) (CD84)	1	U82988		T .				,	]
		L25259	<del> </del>	+		<del>                                     </del>			
CD86 antigen	_ <u>-</u> _							+	
CD9 antigen (p24) (CD9)	2	M38690			+		+	*	
CD97 antigen (CD97)	12	X84700	+	+		+			
CD97 antigen (CD97)	7	P48960							
(noin-exact 59%)	·								
CD97 antigen (CD97) (non-	1	X94630	+	+		+			
exact 62%)									
CDC23 (cell division cycle	1	AF053977		+		1	+	+	1
23, yeast, homolog)						ļ			1 1
(CDC23)		1102424	В	+	+	-	+	+	
CDC37 homolog	1	U63131				<b>└</b>		Ľ	
Cdc42 effector protein 3	2	AF104857	В	+	+		+	1	
(CEP3)		1 555245		+	+	+		+	
CDC-like kinase (CLK)	1	L29219				_ T		L.	
CDC-like kinase 2 (CLK2)	1	AF023268	В	+	+	1			
CDW52 antigen	13	X15183	Tactivated	+	+		+		
(CAMPATH-1 antigen)						1	1	ŀ	
(CDW52)					<u> </u>		<u> </u>		,
cell cycle progression	1	AF011794			l		1	1	<u> </u>
restoration 8 protein(CPR8)			<del></del>	ļ.,	<u> </u>	+	<u> </u>	+	<del> </del>
cell division cycle 10	4	S72008	+	+	+	1		🕇	]
(homologous to CDC10 of	[	1		1				l	1
S. cerevisiae) (CDC10) cell division cycle 20,	1	U05340	<del> </del>	+	+	+	$\vdash$		<u> </u>
S.cerevisiae homolog	l '	000040				1	ł	l	
(CDC20)	l						[		[]
cell division cycle 25B	6	Z68092	+	+	+	+		+	
(CDC25B)	_			L		<u></u>	L		
cell division cycle 2-like 1	1	AF067514							
(PITSLRE proteins)	1				1	1	ł	1	·
(CDC2L1) (non-exact 42%)		Trace in	<del></del>	ļ	<del> </del>	<del>↓</del>	—	+	ļ
cell division cycle 42 (GTP-	- 5	M35543	+	+	+	+	1	•	1
binding protein, 25kD)						1		l	
(CDC42) cell division protein (non-	<del>  1                                   </del>	AF063015	<del> </del>	1		+	<del>                                     </del>	<del> </del>	<del> </del>
exact 68%)	'	71 000010				1	1	l	
CELL-CYCLE NUCLEAR	1	Q13033	<del></del>	<del>                                     </del>	<del>                                     </del>	T	<b>T</b>		
AUTOANTIGEN SG2NA	1					1		1	
(S/G2 NUCLEAR	1			1		ĺ			
ANTIGEN)	<u> </u>			<u> </u>		1_		<u> </u>	ļ
centromere protein B	1	X55039		+		1	+		
(80kD) (CENPB)			<del> </del>	ļ	<b> </b>	╄-	<del> </del>	<b>├</b>	<u> </u>
cep250 centrosome	3	AF022655	В	+		1	+		
associated protein	1	l	1	L		1		L.,	

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ceroid-lipofuscinosis,	7	AF017456	+	+	+	+	+	+	high in bone
neuronal 2, late infantile									
(Jansky-Bielschowsky									l l
disease) (CLN2)	6	X52206				-			
c-fgr (=M63877 nonreceptor protein-	0	A32200							1
tyrosine kinase (fgr))									
CGI-19 protein	3	AF132953.1							
chaperonin containing	1	X74801		+	+			+	
TCP1, subunit 3 (gamma)	'	7,7001			•	1			1
(CCT3)			]						
chaperonin containing	1	AF026291	1	+	+		+	+	
TCP1, subunit 4 (delta)			1					ŀ	
(CCT4)					<u> </u>				
chaperonin containing	4	L27706	В	+	+	1			
TCP1, subunit 6A (zeta 1)						1		1	
(CCT6A)		AF026292	В	+			<u> </u>	+	
chaperonin containing	4	AFU20292		T .	l		Ì	`	1
TCP1, subunit 7 (eta)			]			1	l	ŀ	
Chediak-Higashi syndrome	1	U67615	B. T	+	+	<del>                                     </del>	+	<del>                                     </del>	<del> </del>
1 (CHS1)	•	03.0.0	lymphoma	i					<b>!</b>
Chediak-Higashi syndrome	1	U67615							
1 (CHS1) (low score)		<u></u>						L	
chemokine (C-C motif)	4	U03905						"	
receptor 2 (CCR2)		V05-725	ļ		<u> </u>		<del> </del>		
chemokine (C-C motif)	1	X85740	1	1					
receptor 4 (CCR4) (low match) (may contain						l	l	ļ	
repeat)					i				
chemokine (C-C motif)	6	L31581		-		-	_		
receptor 7 (CCR7)						1			]
chemokine (C-X3-C)	5	U20350		+					
receptor 1 (CX3CR1)			l						
chemokine (C-X-C motif),	5	M99293	+	+	+	+		+	1
receptor 4 (fusin) (CXCR4)		1100000				<del> </del>		+	
chitinase 3-like 1 (cartilage	2	M80927		+		+		🕇	<u> </u>
glycoprotein-39) (CHI3L1)	2	U49835		+		+		+	
chitinase 3-like 2 (CHI3L2)	_			<u> </u>		<u> </u>		Ļ	
chlonde channel 1	1	G18280						1	
skeletal muscle (CLCN1)	ļ <u>1</u>	D28475	<b>.</b>	+	+	<del> </del>		<del> </del>	
chloride channel 6 (CLCN6)	'	020473		l '	· .				ļ
Chloride intracellular	1	U93205	+	+	+	+	$\vdash$	+	
channel 1 (CLIC1)			1			1	ŀ	l	
chondroitin sulfate	5	X15998			+				
proteoglycan 2 (versican)				}		1	ł	1	
(CSPG2)	L		L		ļ	<u> </u>	<u> </u>	<b>↓</b>	
chondroitin sulfate	2	J02814			+		1	+	
proteoglycan core protein		CONTRACT			<del> </del>	-	<b>├</b> ──	<del> </del>	
chromatin assembly factor	1	Q09028			1	1	l	1	
1 p48 subunit (CAF-1 P48 subunit) (retinoblastoma						1	1	1	
binding protein p48)	ŀ			1	l	1	l		
(retinoblastoma-binding	1		1	ŀ	1	1	1	1	
protein 4) (MSI1 protein	ĺ	1			1	1			
(homolog)	<u> </u>	<u> </u>			Ь	1	<u> </u>	┞	<del></del>
chromodomain helicase	2	AF006513		1		1			
DNA binding protein 1	1		i	1	1	1			
(CHD1) chromodomain helicase		AF054177	<b> </b>	├	<del>                                     </del>	+-	<del> </del>	+	<del> </del>
DNA binding protein 1-like	l '	\ \alpha \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cd	l .			1	1		
(CHD1L)	1				1		1		
chromodomain helicase	1	AF006514	В	+	+	1	+	$T^{-}$	
DNA binding protein 2				1		1		1	
(CHD2)			<u> </u>		L	<u> </u>	<u> </u>	1	
chromodomain helicase	1	AF006515						1	
DNA binding protein 3		_				1		1	
(CHD3)	ļ <u> </u>	X86691	+	+	+	+	<del> </del>	+	<del> </del>
chromodomain helicase DNA binding protein 4	5	V0009 I	<b>T</b>	•	] _		1	*	
(CHD4)	1		1		]	1		1	
(0,104)		J	<del></del>	٠					

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chromosome 1 open reading frame 7 (C1ORF7)	1	AF054176							
chromosome 1 specific transcript KIAA0493	1	AB007962							
chromosome 17 open reading frame 1B (C17ORF1B)	1	AJ008112		+					
chromosome 4 open reading frame 1 (C4ORF1)	1	AF006621		+	+	+		+	
chromosome condensation 1-like (CHC1L)	2	AF060219		+	+	+		+	
chromosome X open reading frame 5 (CXORF5)	1	Y15164	В	+	+		+		
chromosome-associated polypeptide C(CAP-C)	2	AF092564	В	+	+		+	+	
cig42		AF026944		11					
cig5	3	AF026941		1					
citrate synthase (CS)		AF047042	В	++	+	-	+	+	
		U31372		+		-			
class I major histocompatibility antigen (HLA-Cw3)					_				
class I major histocompatibility antigen (HLA-Cw3) (low match)	1	U31372		)					
clathrin assembly protein lymphoid myeloid leukemia (CALM)	3	U45976	В	+	+			+	
clathrin heavy chain	1	X55878							
clathrin, heavy polypeptide- like 2 (CLTCL2)	1	D21260							
clathrin, light polypeptide (Lca) (CLTA) (low match)	1	M20472							
clathrin-	3	D63475		+	+	+	+	+	
associated/assembly/adapt or protein, medium 1 (CLAPM1)	-								
deavage stimulation factor, 3' pre-RNA, subunit 2 64kD (CSTF2) (non-exact 82%)	1	M85085							
Cleavage stimulation factor, 3' pre-RNA, subunit 3, 77kD (CSTF3)	1	U15782	В	+	+		+		
clk3		L29220	В	+	+				
clone 23815 (Hs.82845)	1	U90916		+	+			+	
clone 24592 mRNA	1	D88378	+	+	+	+		+	
sequence Clq/MBL/SPA receptor C1qR(p) ()	1	U94333							
clusterin (complement lysis inhibitor, SP-40,40, sulfated glycoprotein 2, testosterone-repressed prostate message 2, apolipoprotein J) (CLU)	1	M64722	+	+	+	+	+	+	
CMP-sialic acid transporter (CMPST)	1	D87969	В	+	+				
CMRF35	3	X66171							0
c-myc oncogene containing coxIII	1	X54629							
coagulation factor II (thrombin) receptor (F2R)	7	M62424		+	+			+	
coagulation factor V (proaccelerin, labile factor) (F5)	1	M14335		+		+	+		
coagulation factor XIII a subunit	3	M21998							
coagulation factor XIII, A1 polypeptide (F13A1)	6	M14354		+	+	+		+	
coated vesicle membrane protein (RNP24)	1	X92098	+	+	+	+	+	+	
[P. 0.0 (/	<del></del>		·						

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coatomer protein complex, subunit alpha (COPA)	5	U24105	Т	+			+		
Cofilin 1 (non-muscle)	13	X95404	+	+	+	+	+	+	high in fetal brain
cold inducible RNA-binding	7	D78134		+	+			+	
protein (CIRBP) cold shock domain protein A (CSDA)	3	X95325		+	+				
collagen, type IX, alpha 2 (COL9A2)	3	AF019406	В						
colony stimulating factor 1 receptor, formerly McDonough feline sarcoma viral (v-fms) oncogene homolog (CSF1R)	3	X03663		+			+	+	
colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage) (CSF2RB)	5	M59941							·
colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage) (CSF2RB) (low match)	1	M59941							
colony stimulating factor 3 receptor (granulocyte) (CSF3R)	16	X55720		+					
complement component 5 receptor 1 (C5a ligand) (C5R1)	1	M62505							
conserved gene amplified in osteosarcoma (OS4)	2	AF000152		+	+	+		+	
COP9 (constitutive photomorphogenic, Arabidopsis, homolog) subunit 3 (COPS3)	2	AF031647		+	+			+	
COP9 homolog (HCOP9)	2	U51205	В	+	+	+	+	+	
COPII protein, homolog of s. cerevisiae SEC23p (SEC23A)	4	X97064		+	+				
copine I (CPNE1)	2	U83246	В	+	+		+		
copine I (CPNE1) (low score)	1	U83246							
coproporphyrinogen oxidase (coproporphyria, harderoporphyria) (CPO)	1	D16611			+		+	+	
core-binding factor, beta subunit (CBFB)	1	L20298		+					
coronin	22	X89109	T, W	+	+		+		
coronin (low match)	1	U34690							
coronin (non-exact, 71%)	1	X89109							
cot (cancer Osaka thyroid) oncogene (COT)	1	D14497	+	+	+	+		+	
cryptochrome 1 (photolyase-like) (CRY1)		D84657		+	+	<u> </u>		+	
CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) phosphatase, subunit 1 (CTDP1)	1	AF081287		+	+	+		+	
C-terminal binding protein 1 (CTBP1)	1	U37408	В	+	+		+		
C-terminal binding protein 2 (CTBP2)	2	AF016507		+	+		+		
CÙG triplet repeat, RNA- binding protein 1 (CUGBP1)	3	U63289		+	+	+		+	
cullin 1 (CUL1)	3	U58087		+	+	+		+	
cullin 3 (CUL3)	2	U58089		+	+	+	L	+	
cut (Drosophila)-like 1 (CCAAT displacement protein) (CUTL1)	1	M74099	В	+					

cyclin D2 (CCND2) cyclin D3 (CCND3) cyclin G1 (CNNG1) cyclin G1 (CNNG1) cyclin T2 (CNNT2) cyclin-dependent kinase 2 (CDK2) cyclin-dependent kinase inhibitor (p27Kip1) cyclin-dependent kinase inhibitor 1A (p21, Cip1) (CDKN1A) CYP2D7-CYP2D6 intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine deaminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b-245) beta chain N-terminal region (X- linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome C cytochrome c oxidase subunit IV (COX4)	2 5 1 3	D13639 M92287 D78341 D50310	B, T lymphoma B	+	+	+	+	+	
cyclin G1 (CNNG1)  cyclin I  cyclin T2 (CNNT2)  cyclin-dependent kinase 2 (CDK2)  cyclin-dependent kinase inhibitor (p27Kip1)  cyclin-dependent kinase inhibitor 1A (p21, Cip1)  (CDKN1A)  CYP2D7-CYP2D6 intergenic region (partial)  cystatin B (stefin B) (CSTB)  cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3)  cytidine deaminase (CDA)  cytochrome b  cytochrome b (CYTB) (isolate Aus5)  cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene)  cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB)  cytochrome C  cytochrome c oxidase subunit IV (COX4)  cytochrome c oxidase	1 3 1	D78341	lymphoma		+		+		
cyclin T2 (CNNT2)  cyclin-dependent kinase 2 (CDK2) cyclin-dependent kinase inhibitor (p27Kip1) cyclin-dependent kinase inhibitor 1A (p21, Cip1) (CDKN1A) CYP2D7-CYP2D6 intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine deaminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X-linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	3								
cyclin T2 (CNNT2)  cyclin-dependent kinase 2 (CDK2) cyclin-dependent kinase inhibitor (p27Kip1) cyclin-dependent kinase inhibitor 1A (p21, Cip1) (CDKN1A) CYP2D7-CYP2D6 intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine deaminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X-linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	1	D50310	, - )	+	+			+	
cyclin-dependent kinase 2 (CDK2) cyclin-dependent kinase inhibitor (p27Kip1) cyclin-dependent kinase inhibitor 1A (p21, Cip1) (CDKN1A) CYP2D7-CYP2D6 intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine deaminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X-linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase			В	+			+		
cyclin-dependent kinase inhibitor (p27Kip1) cyclin-dependent kinase inhibitor 1A (p21, Cip1) (CDKN1A) CYP2D7-CYP2D6 intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine dearninase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X-linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase		AF048732	B, T lymphoma	В					
cyclin-dependent kinase inhibitor (p27Kip1) cyclin-dependent kinase inhibitor 1A (p21, Cip1) (CDKN1A) CYP2D7-CYP2D6 intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine dearminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X-linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	1	X62071							
inhibitor 1A (p21, Cip1) (CDKN1A) CYP2D7-CYP2D6 intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine deaminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	1	S76986							
intergenic region (partial) cystatin B (stefin B) (CSTB) cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3) cytidine deaminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	2	567388	+	+	+	+	+	+	
cystatin B (stefin B) (CSTB)  cysteine and glycine-rich protein 3 (cardiac LIM protein) (CSRP3)  cytidine deaminase (CDA)  cytochrome b  cytochrome b (CYTB)  (isolate Aus5)  cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene)  cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB)  cytochrome C  cytochrome c oxidase subunit IV (COX4)  cytochrome c oxidase	1	X90926							
protein 3 (cardiac LIM protein) (CSRP3) cytidine deaminase (CDA) cytochrome b cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X-linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	1	L03558			+		+	+	
cytochrome b  cytochrome b (CYTB) (isolate Aus5)  cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene)  cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB)  cytochrome C  cytochrome c oxidase subunit IV (COX4)  cytochrome c oxidase	5	L54057			+				
cytochrome b (CYTB) (isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	2	L27943					+		
(isolate Aus5) cytochrome b(-245) beta chain N-terminal region (X- linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	1	AF042500							
chain N-terminal region (X- linked granulomatous disease gene) cytochrome b-245, beta polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	1	AF042518							
polypeptide (chronic granulomatous disease) (CYBB) cytochrome C cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	2	X05895							
cytochrome c oxidase subunit IV (COX4) cytochrome c oxidase	2	X04011	+			+		+	
subunit IV (COX4) cytochrome c oxidase	1	P00001							
cytochrome c oxidase	1	U90915		+	+		+	+	
	2	M59250					+		
cytochrome c oxidase subunit VII-related protein (COX7RP)	6	AB007618	+	+	+	+		+	
cytokine suppressive anti- inflammatory drug binding protein 1 (p38 MAP kinase) (CSBP1)	1	L35263	lymphocyte	+	+		+		
Cytoplasmic antiproteinase=38 kda intracellular serine proteinase inhibitor	1	S69272			+				
cytotoxic granule- associated RNA-binding protein p40-TIA-1	1	570114							
D123 (D123)	1	D14878	+	+		+		+	
D2-2	1	AF019226							
D38	1	X74802							
damage-specific DNA binding protein 1 (127kD) (DDB1)	2	AJ002955	+	+	+	+	+	+	
DCHT (low match)	1	AF017635							
DEAD/H (Asp-Glu-Ala- Asp/His) box binding protein 1 (DDXBP1)	1	U78524		+	+	+	+	+	
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide (72KD) (P72)	2	U59321	T	+	+		+.	+	
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 1 (DDX1)	1	X70649		+	+			+	

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DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 15 (DDX15)	2	AB001636									
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 16 (DDX16)	2	AB011149	+	+	+	+		+			
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 3 (DDX3)	3	U50553	+	+	+	+		+			
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 5 (RNA helicase, 68kD) (DDX5)	37	X15729	+	+	+	+		+			
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 5 (RNA helicase, 68kD) (DDX5) (low match)	1	AF015812									
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 6 (RNA helicase, 54kD) (DDX6)	2	D17532	+	+							
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 8 (RNA helicase, 54kD) (DDX8)	1	D50487		+	+	+	-	+			
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide 9 (RNA helicase A, nuclear DNA helicase II; leukophysin) (DDX9)	3	L13848	+	+	+	+		+			
DEAD/H (Asp-Glu-Ala- Asp/His) box polypeptide, Y chromosome (DBY)	1	AF000985		+	+		+				
Death associated protein 3 (DAP3)	2	X83544	+.	+	+	+	+	+			
death effector domain- containing protein (DEDD)	1	AF083236		+	+	+		+			
death-associated protein 6 (DAXX)	2	AF039136		+	+	+		+			
dedicator of cyto-kinesis 2 (DOCK2)	4	D86964	+	+		+		+			
defender against cell death 1 (DAD1)	1	D15057			+		+	+			
Defensin, alpha 1, myeloid- related sequence (DEFA1)	4	L12690				+	+	+			
DEK gene (D6S231E)	1	X64229	В		+		+				
delta sleep inducing peptide, immunoreactor (DSIPI)	4	Z50781	+	+	+	+		+		 	
dendritic cell protein	3	AF064603	+	+	+	+		+			
deoxycytidine kinase (DCK)	1	M60527									
deoxyribonuclease II, lysosomal (DNASE2)	3	AB004574									
DGS-I	2	L77566		+							
diacylglycerol kinase	3	D16440	<del>                                     </del>		1	1	1				
diacylglycerol kinase alpha (DAGK1) (clone 24)	3	AF064771		+						 	ヿ
diacylglycerol kinase alpha (DAGK1) (clone 24) (low match)	1	AF064771								 	
diaphanous (Drosophila, homolog) 1 (DIAPH1)	1	AF051782	B, monocyte stimulated	+	+		+	+			
diaphorase (NADH) (cytochrome b-5 reductase) (DIA1)		Y09501	+	+	+	+	+	+			
differentiated Embryo Chondrocyte expressed gene 1 (DEC1)	1	AB004066		+			+	+		 	

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differentiated Embryo Chondrocyte expressed	1	AB004066							
gene 1 (DEC1) (low match)	1	L23415			ļ				
CD20									
DiGeorge syndrome critical region gene 2 (DGCR2)	1	X84076		+	+			+	
dihydrolipoamide	2	J03620		+			+	+	
dehydrogenase (E3 component of pyruvate				Į.	1				
dehydrogenase complex,				]					
2-oxo-glutarate complex, branched chain keto acid									
dehydrogenase complex)									
(DLD) dihydrolipoamide S-	1	Y00978	В	+		-	+		
acetyltransferase (E2				Ì					
component of pyruvate dehydrogenase complex)				ļ		i			
(DLÅT)		570069			+	ļ	+	+	
dihydropyrimidinase-like 2 (DPYSL2)	1	D78013			T		_	Ţ	
dinG gene	1	Y10571							
diptheria toxin resistance protein required for	3	AF053003	В	+	+		+	+	
diphthamide biosynthesis					İ	1			
(Saccharomyces)-like 2 (DPH2L2)			İ						
disintegrin-protease (non-	1	Y13323				<u> </u>			
DJ-1 protein	2	AF021819	+	+	+	+		+	
Dmx-like 1 (DMXL1)	1	AJ005821	+	<del> </del>	+	+	-	-	
DNA (cytosine-5-)-	3	X63692	Tactivated,	+	<del> </del>	$\vdash$	+	+	
methyltransferase 1 (DNMT1)			lymphoma						
DNA fragmentation factor, 40 kD, beta subunit (DFFB)	1	AF064019	i			1			
DNA fragmentation factor.	2	U91985	Τ	+	+	<del>                                     </del>		+	
45 kD, alpha subunit (DFFA)									
DNA mismatch repair	1	U17840				$\vdash$			
protein (hMLH1) DNA segment on	3	M64241	<del> </del>	+	+	+	+	+	high in many libraries
chromosome X (unique) 648 expressed sequence	Ū								
DNA segment, single copy probe LNS-CAI/LNS-CAII	3	M73547		+	+	+		+	
(deleted in polyposis (D5S346)								ĺ	
DNA-damage-inducible	1	L24498				1			
transcript 1 (DDIT1) (low match)					1				
DnaJ protein	1	AJ001309							
DnaJ protein	1	AJ001309							
docking protein 2, 56kD (DOK2)	1	AF034970							_
dolichyl- diphosphooligosaccharide-	1	D89060	+	+	+	+	+	+	activated T cell
protein glycosyltransferase				Ì					
(DDOST)		D86198	Tactivated	+	+	_	+		
dolichyl-phosphate mannosyltransferase	•	000190	1 activated		'				
polypeptide 1, catalytic subunit (DPM1)					1				
down-regulated by	1	AJ223183		<del> </del>	<del>                                     </del>	<del>                                     </del>	+		
activation (immunoglobulin superfamily) (DORA)							l		
down-regulated in	1	P40879		<del>                                     </del>		<del>                                     </del>	<del> </del>	<del>                                     </del>	
adenoma DRA (low match) D-type cyclin-interacting	1	AF082569	В	<u> </u>		<del> </del>	+	+	
protein 1 (DIP1)		/11 002000		<u> </u>			Ŀ		
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dual specificity phosphatase 1 (DUSP1)	4	X68277	+	+	+	+	+	+	
dual specificity phosphatase 11 (RNA/RNP complex 1-interacting) (dusp11)	1	AF023917	+	+	+	+		+	
dual specificity phosphatase 3 (vaccinia virus phosphatase VH1- related) (DUSP3)	1	L05147		+	+		+	+	
dual specificity phosphatase 6 (DUSP6)	6	X93920	+	+	+	+	+	+	
dynactin 1 (p150, Glued (Drosophila) homolog) (DYTN1)	3	X98801							
dynactin 1 (p150, Glued (Drosophila) homolog) (DYTN1) (low match)	1	X98801	В	+	+				
dynamin 2 (DNM2)	1	L36983							
dynamitin (dynactin complex 50 kD subunit) (DCTN-50) (non-exact 88%)	1	U50733							
dynein, axonemal, heavy polypeptide 17-like (non- exact, 57%aa)	1	X99947							
dynein, cytopiasmic, light intermediate polypeptide 2 (DNCLI2)	1	AF035812	В	+	+			+	
dynein, cytoplasmic, light intermediate polypeptide 2 (DNCLI2) (non-exact, 69%)	1	AF035812			_				
dyskeratosis congenita 1, dyskerin (DKC1)	1	U59151	В	+			+	+	
dystonia 1, torsion (autosomal dominant) (DYT1)	1	AF007871		+	+	+		+	
dystrobrevin, beta (DTNB)	1	AF022728		+					
dystrophia myotonica- containing WD repeat motif (DMWD)	1	L19267		+	+		+	+	·
dystrophia myotonica- protein kinase (DMPK)	1	L08835	+	+	+			+	
dystrophin (muscular dystrophy, Duchenne and Becker types) (DMD) (low match, 59%aa)	1	X14298							
E1B-55kDa-associated protein	1	AJ007509	W	+	+		+	+	
E2F transcription factor 3 (E2F3)	2	D38550		+	+	+	+	+	
E2F transcription factor 4, p107/p130-binding (E2F4)	1	X86096	В	+		L.		<u> </u>	
E2F transcription factor 5, p130-binding (E2F5)	2	U15642	+	+		+	<u>L</u>	+	
E74-like factor 1 (ets domain transcription factor) (ELF1)	1	M82882	В		+	_	+	+	
E74-like factor 4 (ets domain transcription factor) (ELF4)	3	U32645		+	+			+	
E74-like factor 4 (ets domain transcription factor) (ELF4) (non-exact, 71%)	1	U32645							
early development regulator 2 (homolog of polyhomeotic 2) (EDR2)	4	U89278	+	+	+	+		+	
EBV induced G-protein coupled receptor (EBI2)	1	L08177	W						
ecotropic viral integration site 2B (EVI2B)	3	M60830		+		+			

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ectin, galactoside-binding, soluble, 1 (galectin 1) (LGALS1)	1	J04456						+	_	
EGF-like-domain, multiple 4 (EGFL4)	1	AB011541								1
elF-2-associated p67	3	U13261	В	+				+		1
elastin (supravalvular aortic stenosis, Williams-Beuren syndrome) (ELN) (low match)		M24782		+	+					
elav-type RNA-binding protein (ETR-3)	3	U69546								]
electron-transfer- flavoprotein, alpha polypeptide (glutaric aciduria II) (ETFA)	2	J04058		+						
ELK3, ETS-domain protein (SRF accessory protein 2) (ELK3)	2	Z36715			+			+		
elongation factor 1-beta	1	L26404								
elongation factor Ts (mitochondrial protein)	1	AF110399							-	
elongation factor Tu- nuclear encoded mitochondrial	1	X84694								]
eMDC II protein	1	AJ242015.1		11		$\vdash$				1
ems1 sequence (mammary tumor and squamous cell carcinoma-associated (p80/85 src substrate) (EMS1)	1	М98343	•••	+	+		+	+	 	1
endogenous retroviral element HC2	1	270664								
endosulfine alpha (ENSA)	1	X99906	T	+						٦
endothelial differentiation, sphingolipid G-protein- coupled receptor, 1 (EDG1)	2	M31210		+	+	+		+		1
endothelial differentiation, sphingolipid G-protein- coupled receptor, 1 (EDG1) (low match 65%)	1 "	M31210							 	
endothelial monocyte- activating polypeptide (EMAPII)	1	U10117	+	+	+	+		+	 	
enolase 1, (alpha) (ENO1)	12	M14328	+	+	+	+	+	+		]
enolase 2, (gamma, neuronal) (ENO2)	1	X51956	<u> </u>	+						$\rfloor$
enolase-alpha	1	D28437								
enoyl Coenzyme A hydratase 1, peroxisomal (ECH1)	2	U16660								
enoyl Coenzyme A hydratase, short chain, 1, mitochondrial (ECHS1)	1	D13900	+	+	+	+	+	+		
ENOYL-COA HYDRATASE, MITOCHONDRIAL PRECURSOR (SHORT CHAIN ENOYL-COA HYDRATASE) (SCEH) (ENOYL-COA HYDRATASE 1) (low match, non-exact 56%)	1	P30084							<del> </del>	
epidermal growth factor receptor pathway substrate 15 (EPS15)	2	U07707		+		+		+	 	

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EPIDIDYMAL SECRETORY PROTEIN E1 PRECURSOR (EPI-1) (HE1) (EPIDIDYMAL SECRETORY PROTEIN 14.6) (ESP14.6)	2	Q15668							
epithelial membrane protein 3 (EM[P3)	1	U87947	+	+	+	+		+	
Epoxide hydrolase 1. microsomal (xenobiotic) (EPHX1)	1	L29766							+ only
ERCC2 (=L47234)	1	X52221							
ERF-2	3	U07802	+	+	+	+		+	high in gall bladder
ERp28 protein	1	X94910	+	+	+	+		+	
erythrocyte membrane protein	2	M81635							
erythroleukemic cells K562	2	L25343							
EST (Hs.189509)	2	U24166							
estrogen receptor-related protein (hERRa1)	1	L38487							
ESTs, Highly similar to ADENYLOSUCCINATE SYNTHETASE	1	X66503	В, Т	+	+				
ESTs, Moderately similar to cysteine-rich fibroblast growth factor receptor		U28811	+	+	+	+		+	
ET binding factor 1 (SBF1)	1	U93181	+	+			<u> </u>	+	
ets domain protein ERF	1	U15655	+	+	+	+		+	
eukaryotic translation elongation factor 1 alpha 1 (EEF1A1)	326	X03558	Ť	+	+			+	,
eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) (low match)	1	X03558							
eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) (low match)	1	X03558							
eukaryotic translation elongation factor 1 beta 2 (EEF1B2)	5	X60489	+	+	+	+		+	
eukaryotic translation elongation factor 1 delta (guanine nucleotide exchange protein) (EEF1D)		221507	+	+	+	+	+	+	
eukaryotic translation elongation factor 1 gamma (EEF1G)	31	Z11531							
eukaryotic translation elongation factor 2 (EEF2)	2	X51466		+					
eukaryotic translation initiation factor 2, subunit 1 (alpha, 35kD) (EIF2S1)	1	J02645							
eukaryotic translation initiation factor 2, subunit 2 (beta, 38kD) (EIF2S2)		M29536							
eukaryotic translation initiation factor 2, subunit 3 (gamma, 52kD) (EIF2S3)	3	L19161		+	+				
eukaryotic translation initiation factor 3, subunit 10 (theta, 150/170kD) (EIF3S10)	2	U78311							
eukaryotic translation initiation factor 3, subunit 2 (beta, 36kD) (EIF3S2)	3	U36764	+	+	+	+	+	+	high in white blood cells
eukaryotic translation initiation factor 3, subunit 3 (gamma, 40kD) (EIF3S3)	6	U54559	+	+	+	+		+	high in spleen
eukaryotic translation initiation factor 3, subunit 4 (delta, 44kD) (EIF3S4)	9	AF020833		+	+	+		+	

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eukaryotic translation initiation factor 3, subunit 6 (48kD) (EIF3S6)	4	U94175	+	+	+	+		+	high in bladder
eukaryotic translation initiation factor 3, subunit 6 (EIF3S6)	1	U62962		+	+	+		+	Highly represented (1.4833 pct) in library 36 human gall bladder
eukaryotic translation initiation factor 3, subunit 7 (zeta, 66/67kD) (EIF3S7)	3	U54558	+	+	+	+		+	
eukaryotic translation initiation factor 3, subunit 8, 110KD (EIF3S8)	5	U46025	•	+	+	+	+	+	high in testis
eukaryotic translation initiation factor 4 gamma, 1 (EIF4G)		AF012088							
eukaryotic translation initiation factor 4 gamma, 1 (EIF4G) (low match)		AF012088							
eukaryotic translation initiation factor 4 gamma, 1 (EIF4G1)	2	D12686							
eukaryotic translation initiation factor 4 gamma, 2 (EIF4G2)	6	U73824	+	+	+	+	+	+	
eukaryotic translation initiation factor 4 gamma, 2 (EIFG2)	2	U76111	+	+	+	+	+	+	
eukaryotic translation initiation factor 4A, isoform 1 (EIF4A1)	29	D13748							
eukaryotic translation initiation factor 4A, isoform 2 (EIF4A2)	11	D30655	+	+	+	+	+	+	
eukaryotic translation initiation factor 4B (EIF4B) eukaryotic translation	18	X55733	+	+	+	+	_		
initiation factor 4E (EIF4E) Eukaryotic translation	3	L36056	Т, В	+		_	+	+	
initiation factor 4E binding protein 2 (EIF4EBP2) eukaryotic translation	2	Q15056		ļ					
Initiation factor 4H (EIF4H)							<u> </u>		
eukaryotic translation initiation factor 5 (EIF5)	2	U49436	+		+	+	+	+	
eukaryotic translation termination factor 1 (ETF1)	2	U90176	+	+		Ľ	_	Ľ	<u> </u>
EV12 protein	1	M55266			<u></u>	<u> </u>	ļ	ļ.,.	<u></u>
Ewing sarcoma breakpoint region 1 (EWSR1)	1	X66899	+	+	+	+	_	+	
EWS/FLI1 activated transcript 2 homolog (EAT-2)	2	AF020264							
EWS-E1A-F chimeric protein	1	U35622							
excision repair cross- complementing rodent repair deficiency, complementation group 1 (includes overlapping antisense sequence) (ERCC1)	1	M28650	+	+	+	+		+	
excision repair cross- complementing rodent repair deficiency, complementation group 5 (xeroderma pigmentosum, complementation group G (Cockayne syndrome)) (ERCC5)	1	X69978		+	+	+		+	
exostoses (multiple)-like 3 (EXTL3)	1	AF001690		+	+	+		+	
F11	1	X77744				+			

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F1-ATPase beta subunit (F-1 beta)	2	X03559							
Fanconi anaemia group A	2	Z83095							
Fanconi anemia, complementation group A (FANCA)	1	X99226	+	+	+	+			
far upstream element (FUSE) binding protein 1 (FUBP1)	2	U05040	+		+			+	
farnesyl diphosphate synthase (farnesyl pyrophosphate synthetase,dimethylallyltra nstransferase, geranyltranstransferase) (FDPS)	1	J05262	+	+	+	+			
farnesyl-diphosphate famesyltransferase 1 (FDFT1)	2	X69141	+	+	+	+	+	+	
farnesyltransferase, CAAX box, beta (FNTB)	2	L00635		+	+				
Fas ligand (gene and promoter region)	1	AF044583				<u> </u>			
Fas-ligand associated factor 1	1	U70667				<u> </u>	_	+	
fatty-acid-Coenzyme A ligase, long-chain 1 (FACL1)	4	D10040	+	+	+	+	+		
Fc fragment of IgA, receptor for (FCAR)	1	X54150							
Fc fragment of IgE, high affinity I, receptor for; gamma polypeptide (FCER1G)	1	M33195	+	+	+	+		+	
Fc fragment of IgE, low affinity II, receptor for (CD23A) (FCER2)	2	X04772	+	+					
Fc fragment of IgG, low affinity IIa, receptor for (CD32)	6	M31932	+	+	+	+	+	+	
Fc fragment of IgG, low affinity IIa, receptor for (CD32) (FCGR2A)	1	X62572	+	+	+	+	+	+	
Fc fragment of IgG, tow affinity Illa, receptor for (CD16) (FCGR3A)	34	X07934	+	+	+	+		+	
Fc fragment of IgG, receptor, transporter, alpha (FCGRT)	3	U12255		+	+	+	+	+	high in many libraries
fc-fgr	1	Z13983				1		ļ	
Fc-gamma-receptorIIIB (FCGR3B)	2	M90746		ļ <u>.</u>		ļ			
feline sarcoma (Snyder- Theilen) viral (v- fes)/Fujinami avian sarcoma (PRCII) viral (v- fps) oncogene homolog(FES) c-fes/fps)	3	X06292							
female sterile homeotic- related gene 1 (mouse homolog) (FSRG1)	2	X96670	+	+	+	+		+	
femilin L-chain	9	Y09188							
ferntin, heavy polypeptide 1 (FTH1)	4	M11146	+	+	+	+	+	+	
fertilin alpha pseudogene	1	Y09232			ļ	_	_		
fetal Alzheimer antigen (FALZ)	2	U05237		+		$\perp$		_	
fetal Ig heavy chain variable region	1	M34024		1	+	+	+	+	
fibrillarin (FBL)	1	X56597	+	+	+	+	+	╀	
fibrinogen-like protein 2 (T49)	3	Z36531	12						

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fibroblast growth factor receptor 2 (bacteria- expressed kinase,	1	M35718	+	+	+	+	+	+	
keratinocyte growth factor receptor, craniofacial dysostosis 1, Crouzon									
syndrome) syndrome, Pfeiffer syndrome.									
Jackson-Weiss) (FGFR2) ficolin (collagen/fibrinogen domain-containing) 1	19	D83920				+		+	
(FCN1) filamin A, alpha (actin- binding protein-280)	2	X53416							
(FLNA) filamin B, beta (actin-	1	AF043045		+	+		+		
binding protein-278) (FLNB)	2	X65923	+	+	+	+	+	+	Highly represented in
Finkel-Biskis-Reilly munne sarcoma virus (FBR-MuSV) ubiquitously expressed (fox derived); ribosomal protein S30 (FAU)	2	A03 <b>92</b> 3	, and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second		·		ġ		intraepithelial neoplasia and invasive prostate tumor
FK-506 binding protein	1	M80199	+	+	+	+		+	
FK506-binding protein 1A (12kD) (FKBP1A)	2	M34539						_	
FK506-binding protein 1B (12.6 kD) (FKBP1B) FK506-binding protein 5	1	M92423		+	+	+		+	
(FKBP5) Flightless I (Drosophila)	3	U80184		+		<u> </u>		Ė	161
homolog (FLII) Flightless I (Drosophila)	1 1	U80184				_			
homolog (FLII) (low match)						L_	_	Ļ	
FLN29 (FLN29)	2	AB007447		+		+		+	
flotillin 2 (FLOT2)	5	M60922	+	+	+	+	+	+	
folate receptor 2 (fetal) (FOLR2)	1	AF000380 AF032886	+	+	+	+	_	+	
forkhead (Drosophila) homolog (rhabdomyosarcoma) like 1 (FKHRL1)	<b>,</b>	AFUSZOO	,						
Formyl peptide receptor 1 (FPR1)	9	M60627	+	+	+	+		+	
formyl peptide receptor-like 1 (FPRL1)	1	M84562							Found only in libraries from placenta
formyl peptide receptor-like 1 (FPRL1) (low score)		M84562		+		+		+	
fragile X mental retardation 1 (FMR1)	1	L29074 U25165	+	<u>                                   </u>	+	+	_	Ľ	
fragile X mental retardation, autosomal homolog 1 (FXR1)									
Friend leukemia virus integration 1 (FLI1)	3	M93255	+	+		+		+	
fructose-bisphosphatase 1 (FBP1)		D26054 U85056		<u> </u>		Ľ		ļ.	1
FSHD-associated repeat DNA, proximal region fucose-1-phosphate		AF017445		+	+	+	ļ	_	
guanylyltransferase (FPGT)						Ĺ	_		·
full length insert cDNA clone ZA78A09	1	AF086122				<u> </u>	<u> </u>		
full length insert cDNA YP07G10	1	AF075061		<u> </u>		ļ_		<u> </u>	
fumarate hydratase (FH)	1	U59309	1	+	+	+	<u> </u>	+	
FUS (low match)	1	X99006		+		+	<u> </u>	$\vdash$	· · · · · · · · · · · · · · · · · · ·
FYN-binding protein (FYB- 120/130) (FYB)	16	U93049	<u> </u>			<u> </u>			

110 00, 10, 15									
G alpha interacting protein (GAIP) (low score)	1	X91809							
G protein beta subunit-like protein 12.3	2	D28398							
G protein-coupled receptor 64 (HE6) (non-exact 59%)	1	X81892				+			
G protein-coupled receptor	2	L16862	+	+	+			+	
kinase 6 (GPRK6) G1 to S phase transition 1	2	X17644		+	+	+	+	+	
(GSPT1) GA-binding protein transcription factor, beta	1	D13316		+	+	+	+	+	
subunit 2 (47kD) (GABPB2) galactose-1-phosphate	2	M60091		1-					
uridylyltransferase (GALT) galactosidase, beta 1	3	M27508		++			+	+	
(GLB1) galactosyltransferase (=X13223 N-	1	M13701							
acetylglucosamide-(beta 1- 4)-galactosyltransferase)									
galectin-9 isoform	1	AB006782	+	1		+		+	
gamma2-adaptin (G2AD)	1	AF068706	+	+		+		+	
gamma-actin	2	M37130		+	+	<u> </u>		+	
gamma-aminobutyric acid (GABA) B receptor 1 (GABBR1)	2	AJ012187		+	+				
GATA-binding protein 2 (GATA2)	1	M68891				+		+	
GATA-binding protein 3 (GATA3)	1	M69106			+	+		+	
GCN5 (general control of amino-acid synthesis, yeast, homolog)-like 1 (GCN5L1)	3	D64007	+	+	+	+		+	
GDP dissociation inhibitor	1	D45021	+	+	+	+		+	high in adult brain
GDP dissociation inhibitor 2 (GCI2)	4	Y13286							
GDS-related protein (HKE1.5)	4	U68142	+	+	+	+		+	
gelsolin (amyloidosis, Finnish type) (GSN)	3	X04412		+	+	+	+	+	
general transcription factor	4	Y14946	+	+	+	+	+	+	
general transcription factor II, i, pseudogene 1 (GTF2IP1)	1	AF038968	+	+	+	+	+	+	high in fetal brain
general transcription factor IIF, polypeptide 1 (74kD	4	X64037	+	+	+	+		+	
general transcription factor IIH, polypeptide 3 (34kD	2	Z30093	В, Т						
general transcription factor IIH, polypeptide 4 (52kD	3	Y07595		+		+		+	
subunit) (GTF2H4) general transcription factor	1	U14134	+	+	<b></b> -	+		+	
general transcription factor liliC, polypeptide 1 (alpha	1	U02619		+		+			
subunit, 220kD) (GTF3C1) general transcription factor	3	D13636	+	+	+	+	+	+	
IIIC, polypeptide 2 (beta subunit, 110kD) (GTF3C2)				<u> </u>					
germline immunoglobulin heavy chain (IGHV@)	1	L06612							
germline immunoglobulin heavy chain, variabl region	1	X92236							
germline immunoglobulin heavy chain, variable region, (21-2)	1	X92343							
<u> </u>									

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GLE1 (yeast homolog)-like, RNA export mediator (GLE1L)	1	AF058922		+	+				
glia maturation factor, beta (GMFB)	1	AB001106	+	+		+		+	
glioma-associated oncogene homolog (zinc finger protein) (GLI)	1	X07384							
glioma-associated oncogene homolog (zinc finger protein) (GLI) (low score)	1	X07384					İ	ļ	
globin, alpha 2	<del></del>	V00516		1-1					
glucocorticoid receptor (=M69104)	1	M32284							
glucocorticoid receptor	2	U80947	i +	+	+	+		+	
(GRL) glucos phosphate isomerase (CONTAINS LARGE REPEAT)	1	L09105							
glucosamine (N-acetyl)-6- sulfatase (Sanfilippo disease IIID) (GNS)	1	Z12173	+						
glucosamine (N-acetyl)-6- sulfatase (Sanfilippo disease IIID) (GNS) (non- exact 56%)	1	Z12173							
glucose transporter-like protein-III (GLUT3)	1	M20681		+	+	+	+	+	
glucose transporter-like protein-III (GLUT3) (low match)	1	M20681							
glucosidase, alpha; acid (Pompe disease, glycogen storage disease type II) (GAA)	1	Y00839	<b>+</b>	+		+		+	
glucosidase, beta; acid (includes glucosylceramidase) (GBA)	1	K02920	+	+	+	+		+	
glutamate dehydrogenase 1 (GLUD1)	1	M20867		+	+	+	+	+	
glutamate-ammonia ligase (glutamine synthase) (GLUL)	12	X59834	+	+	+	+		+	
glutamate-ammonia ligase (glutamine synthase) (GLUL) (low score)	1	Y00387							
glutamate-cysteine ligase (gamma-glutamylcysteine synthetase), catalytic (72.8kD) (GLCLC)	1	M90656				+			
glutamine cyclotransferase	1	X71125		+	+				
glutamine-fructose-6- phosphate transaminase 1 (GFPT1)	1	M90516		+		+			
glutaminyl-tRNA synthetase	1	X72396							
glutaminyl-tRNA synthetase (QARS)	6	X76013	+	+	+	+		+	
glutamyl-prolyl-tRNA synthetase (EPRS)	1	X54326							
glutathione peroxidase 1 (GPX1)	2	M21304	+	+	+	+	+	+	
glutathione peroxidase 4 (phospholipid hydroperoxidase) (GPX4)	1	X71973	+	+	+	+		+	
glutathione S-transferase pi	1	U30897	1	+	+	+	+	+	
(GSTP1) glutathione S-transferase	1	AF070657	<del>                                     </del>	+	<del>                                     </del>	T			
subunit 13 homolog glyceraldehyde-3- phosphate dehydrogenase	12	J02642				-	+		
(GAPD)	L	1	45		ч				·

glycogenin (GYG)	1	U31525		+	+	+		+	
alycophorin C (Gerbich	1	X12496		+	+	+	一	+	
blood group) (GYPC) glycoprotein M68 (GPM68)	1	U45955	- * '	+	+				
glycyl-tRNA synthetase	1	U09587		+	+	+		+	
(GARS) glyoxalase I (lactoyl	1	L07837	+	+	+	+	-	+	
glutathione lyase) (GLYI)		U51587		+		+	$\dashv$		
subfamily a, 1 (GOLGA1) golgi autoantigen, golgin		L06147							
subfamily a, 2 (GOLGA2) (non-exact, 70%)									·
golgi autoantigen, golgin subfamily a, 4 (GOLGA4)	1	U31906							
golgi autoantigen, golgin subfamily b, macrogolgin (with transmembrane signal), 1 (GOLGB1)	1	X75304		+	+	+		+	
gp25L2 protein	4	X90872							
grancalcin	8	M81637	<u> </u>	+	+	+			<u> </u>
granulin (GRN)	16	X62320	+	+	+	+		+	
granulin (GRN) (low match)	7	X62320							_
Granulysin (NKG5)	5	M85276	+					+	
granzyme A (granzyme 1, cytotoxic T-lymphocyte-associated serine esterase 3) (GZMA)	1	M18737	+	+	+	+		+	
GRB2-related adaptor protein (GRAP)	1	U52518	Tonly						
Grb2-related adaptor protein 2 (GRAP2)	1	AF090456	1				+		
GRO1 oncogene (melanoma growth stimulating activity, alpha) (GRO1)	1	X54489				+		+	
growth arrest and DNA- damage-inducible gene (GADD153)	1	\$40706							
growth arrest-specific 7 (GAS7)	4	AB007854		+	+				
growth factor receptor- bound protein 2 (GRB2)	1	X62852	В	+			+	+	•
GS1 (protein of unknown function)	1	M86934		+	+	+			
GS3955	4	D87119	·	+	+	+		+	
GTP binding protein 1	1	U87964		+	+	+			
(GTPBP1) GTP binding protein similar to S. cerevisiae HBS1	1	U87791		+	+	+		+	
(HBS1) GTPase activating protein-	1	AB011110		+	+	+		+	high fetal brain
like (GAPL) GTP-binding protein (low	1	Z49068		<del> </del>			-	-	
match) GTP-binding protein G(K), alpha subunit (=G(I) ALPHA-3)(=GTP-binding regulatory protein Gi alpha-	1	P08754							
3 chain) Gu protein (GURDB)	2	U41387	+	-	+	+	<del> </del>	+	
guanine nucleotide binding	1	041007	<u>'</u>	+	<u> </u>	H	├─		
protein guanine nucleotide binding	4	J03004	+	+	+	+	_	+	
protein (G protein), alpha inhibiting activity polypeptide 2 (GNAI2)									

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guanine nucleotide binding protein (G protein), alpha inhibiting activity	7	M20597	+	+	+	+		+	
polypeptide 3 (GNAI3)									
guanine nucleotide binding protein (G protein), alpha stimulating activity polypeptide 1 (GNAS1)	2	X04409	В, Т	+			+	+	
guanine nucleotide binding protein (G protein), alpha transducing activity polypeptide 2 (GNAT2)	f	Z18859							
guanine nucleotide binding protein (G protein), beta 5 (GNB5)	2	AF017656		+	+	+		+	
guanine nucleotide binding protein (G protein), beta polypeptide 1 (GNB1)	5	M36430	+	+	+	+	+	+	
guanine nucleotide binding protein (G protein), q polypeptide (GNAQ)	2	AF011496		+	+	+			
guanine nucleotide binding protein-like 1 (GNL1)	1	L25665	+	+	+	+		+	
guanine nucleotide exchange factor	1	L13857	+	+	+	+			
guanine nucleotide regulatory factor (LFP40)		X15610	+	+	+	+		+	
guanine nucleotide regulatory factor (LFP40)	1	U72206	+	+	+	+		+	
GŬANINÉ NUCLEOTIDE- BINDING PROTEIN BETA SUBUNIT-LIKE PROTEIN 12.3 (P205) (RECEPTOR OF ACTIVATED PROTEIN KINASE C 1) (RACK1)	1	P25388							
GUANINE- MONOPHOSPHATE SYNTHETASE (GMPS)	1	U10860			+				
guanosine monophosphate reductase (GMPR) (non- exact, 72%)	1	M24470							
guanosine-diphosphatase like protein	1	AF016032							
guanylate binding protein 1, interferon-inducible, 67kD (GBP1)	2	M55542		+	+	+	+	+	
guanylate binding protein 2, interferon-inducible (GBP2)	6	M55543	+	+	+	+		+	
H2A histone family, member C (H2AFC)	1	Z83742							
H2A histone family, member Y (H2AY)	2	AF041483	+	+	+	+		+	
H2B histone family, member L (H2BFL)	2	Z80783	+	+	+	+	+	+	high in adrenal gland tumor
h2-calponin	1	D86059						<u></u>	
H-2K binding factor-2	1	L08904		+	+	+		+	
H3 histone family, member K (H3FK)	1	Z83735							
H3 histone, family 3A (H3F3A)	7	M11353	+	+	+	+		+	high in ovary
H3 histone, family 3B (H3.3B) (H3F3B)	15	Z48950	+	+	+	+		+	high in endothelial cells
hbc647	1	U68494		+	+_	+	+	L	
heat shock 27kD protein 1 (HSPB1)	1	U12404		+	+		+:	+	
heat shock 40kD protein 1 (HSPF1)	4	D85429	+	+	+	+	+	+	high in testis
heat shock 60kD protein 1 (chaperonin) (HSPD1)	3	M22382	+	+	+	+	+	+	
heat shock 70kD protein 1 (HSPA1A)	7	M59828	+	+	+	+	+	+	high in activated T cells

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heat shock 70kD protein 5 (glucose-regulated protein, 78kD) (HSPA5)	13	X87949		+	+		+		
heat shock 70kD protein 6 (HSP70B') (HSPA6)	4	X51757	+	+	+				
heat shock 70kD protein 9B (mortalin-2) (HSPA9B)	2	L15189		+	+	+	+	+	
HEAT SHOCK COGNATE	1	P11142							
heat shock factor binding protein 1 (HSBP1)	2	AF068754							
heat shock protein 90	13	M27024	+	+	+	+	+	+	high in many libraries
heat shock protein, DNAJ- like 2 (HSJ2)	1	D13388		+	+		+	+	
Hect (homologous to the E6-AP (UBE3A) carboxyl terminus) domain and RCC1 (CHC1)-like domain (RLD) 1 (HERC1)	1	U50078		+	+	+			
hect domain and RLD 2 (HERC2)	1	AB002391	+	+	+	+		+	
helicase-like protein (HLP)	1	X98378	+	+		+	<u> </u>	+	
helix-loop-helix protein HE47 (E2A)	1	M65214						+	
hematopoietic cell-specific Lyn substrate 1 (HCLS1)	18	X16663	+		+	+		+	
heme oxygenase (decycling) 1 (HMOX1)	1	X06985		+		+	+	+	
HEMOGLOBIN ALPHA CHAIN	1	P19015			_		_		
hemoglobin beta (beta globin)	5	AF117710			+	ļ	-	+	
hemoglobin, alpha 1 (HBA1)	301	V00491		ļ		ļ	Ľ	Ľ	
hemoglobin, alpha 1 (HBA1) (low match)	1	V00491 V00493		<u> </u>	ļ	_		ļ	
hemoglobin, alpha 1 (low match) hemoglobin, alpha 1 (non-	-	J00153			ļ	├	-	-	
exact, 76%) hemoglobin, alpha 1 (non-	<u>'</u>	V00493		-		$\vdash$	-	-	
exact, 82%) hemoglobin, beta (HBB)	129	V00497	+	+	+	+	+	+	high in many libraries
		V00497		-	-		$\vdash$	┼─	
hemoglobin, beta (HBB) (low match)	1	L48220	ļ		_	-	_		
hemoglobin, beta (HBB) (low match) hemokine (C-X-C motif),		D10924	+	+	+	+	╀	+	
receptor 4 (fusin) (CXCR4) hemopoietic cell kinase	5	M16591		<u> </u>		+		+	
(HCK)	2	D28908		<del> </del>	-	+	-	+	
microtubular aggregate								<u></u>	
hepatoma-derived growth factor	1	D16431	+	+	+	+		+	
Hermansky-Pudlak syndrome (HPS)	2	U65676							
HERV-E integrase (non- exact 76%aa)	1	AF026246				ļ.,	_	<u> </u>	
neterogeneous nuclear protein similar to rat helix destabilizing protein (FBRNP)	2	S63912		+	+	+		+	
heterogeneous nuclear ribonucleoprotein (C1/C2) (HNRPC)	4	M16342							
heterogeneous nuclear ribonucleoprotein A/B (HNRPAB)	1	M65028	+	+	+	+	+	+	

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heterogeneous nuclear ribonucleoprotein A1 (HNRPA1)	20	X12671	+	+	+	+	+	+	High in adveolar rhabdomyosarcoma
heterogeneous nuclear ribonucleoprotein A2/B1 (HNRPA2B1)	3	M29064	+	+	+	+	+	+	High in activated T cell, fetal brain
heterogeneous nuclear ribonucleoprotein D (hnRNP D)	2	D55673	+	+	+	+	+	+	
heterogeneous nuclear ribonucleoprotein D-like (HNRPDL)	5	D89092	+	+	+	+	+	+	
heterogeneous nuclear ribonucleoprotein F (HNRPF)	1	L28010	+	+	+	+		+	
heterogeneous nuclear ribonucleoprotein F (HNRPF) (83%)	1	L28010							
heterogeneous nuclear ribonucleoprotein G (HNRPG)	2	Z23064		+	+	+		+	
heterogeneous nuclear ribonucleoprotein H (HNRPH) (FTP-3)	3	P55795							
heterogeneous nuclear ribonucleoprotein H (HNRPH) (low match)	1	P31943							
heterogeneous nuclear ribonucleoprotein H1 (H) (HNRPH1)	2	L22009	+	+	+	+		+	
heterogeneous nuclear ribonucleoprotein K (HNRPK)	21	S74678	+	+	+	+	+	+	
heterogeneous nuclear ribonucleoprotein R (HNRPR)	1	AF000364		+	+	+	+	+	·
heterogeneous nuclear ribonucleoprotein U (scaffold attachment factor A) (HNRPU)	3	X65488	+	+	+	+	+	+	
hexokinase 1 (HK1)	2	X66957		+	+	+		+	
hexokinase 2 (HK2)	3	Z46376	+	+	+	+	<del>                                     </del>	+	
hexokinase 3 (HK3)	2	U51333		-		├─	-	-	
hexosaminidase A (alpha	1	S62047	····	+	-	-	-		
polypeptide) (HEXA	_			ļ		<u> </u>			
HGMP07I gene for olfactory receptor	2	U76377			1				
High density lipoprotein	2	M64098	+	+	+	+	+	+	
high-mobility group (nonhistone chromosomal)	5	X12597	+	+	+	+	+	+	
protein 1 (HMG1) high-mobility group (nonhistone chromosomal) protein 1 (HMG1) (non- exact 60%)	1	D63874							
High-mobility group (nonhistone chromosomal) protein 17 (HMG17)	2	M12623	+	+	+	+		+	
high-mobility group (nonhistone chromosomal) protein 2 (HMG2)	2	M83665	+	+	+	+	+	+	
high-mobility group (nonhistone chromosomal) protein isoforms I and Y	2	L17131	+	+	+		+	+	
high-risk humanpapilloma viruses E8 oncoproteins targeted protein E6TP1 beta (=A8007900 KIAA0440)	1	AF090990.1							
histidine ammonia-lyase (HAL)	<del></del>	D16626			+	, only	ý		

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histidyl-tRNA synthetase (HARS)	2	Z11518	<del></del>	+	+	+	+	+	
histocompatibility antigen (HLA-Cw3), class I	1	U31372							
histone deacetylase 1	4	U50079	+	+	+	+		+	
(HDAC)									
histone deacetylase 1 (HDAC1)	2	D50405	+	+	+	+		+	
histone deacetylase 5 (NY- CO-9)	1	AF039691		+	+				
HK2 gene for hexokinase II	1	Z46362							
HL9 monocyte inhibitory receptor precursor	2	U91928				+			
HLA class I heavy chain (HLA-Cw*1701)	1								
HLA class I locus C heavy	1	X58536							
HLA class II SB 4-beta	1	X03022							
HLA class III region containing NOTCH4 gene	1	U89335	+	+	+	+		+	
HLA-A	<del></del>	Z72423		+		t	$\vdash$		
HLA-A	<del>.</del> 2	AJ006020		+	-	<del> </del>			
		AJ223060		-		$\vdash$		-	
HLA-A*7402	·			-	ļ		<del>                                     </del>		
HLA-A11	1	U02934				ļ			
HLA-B	2	X75953		<u>L</u>		<u></u>			
HLA-B	1	X83401							
нса-в	1	X78426							
HLA-B associated	1	Z37166	+	+	+	+	+	+	
transcript-1 (D6S81E)	•	7		<u>L</u>		<u> </u>		<u></u>	
HLA-B associated transcript-2 (D6S51E)	2	M33509	+	+	+	+			
HLA-B*1529	4	D44501		1		1			
HLA-Bw72 antigen	119	L09736	+	+	+	+	+	+	high in many libraries
HLA-C gene (HLA- Cw*0701 allele)	1	D83957							
HLA-CW*0701	9	Z46810							
HLA-CW*0801	1	D64151		+	_	<del>                                     </del>	†	ऻ	
HLA-CW 1203	1	D64146		+	<u> </u>	┼─	┼─	-	
	2	X00370		+		┼	┼─		
HLA-DC classil histocompatibility antigens alpha-chain (=K01160)	2	200370							
HLA-DR alpha-chain	17	M60333	+	+	+	+	+	+	high in spleen
HLA-F (leukocyte antigen	3	X17093		1	+	+		+	
HMG box containing protein 1	3	AF019214				1			
hMLH1 (=U83845)	1	AB017806.1		-	<del>                                     </del>	_	<del> </del>	<del>                                     </del>	
Hmob33	3	Y14155		+	<b>—</b>	+	<del> </del>	<del>                                     </del>	
	2	U80213	+	+	+	+	+	+	
HMT1 (hnRNP methyltransferase, S. cerevisiae)-like 1 (HRMT1L1)	2	J00213	*						
hnRNP C1/C2	2	D28382				1			
homeobox (=X58250		M60721		+	1	<del>                                     </del>	1		V.
Mouse homeo box protein, put, transcription factor				İ					
involved in embryogenesis and hematopoiesis)									
homeobox protein (HLX1) (=M60721)	. 1	U14326							
homeodomain-interacting protein kinase 3 (HIPK3)	1	AF004849	+		+	+		+	
homolog of Drosophila past (PAST)	2	AF001434	+	+	+	+		+	
homolog of yeast (S. cerevisiae) ufd2 (UFD2)	3	D50916		+	+	+		+	
CELEVISIAE) UIUZ (UFDZ)			<u> </u>		1				1

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HPV16 E1 protein binding protein	1	U96131	·-	+	+			+		
HRIHFB2157	1	AB015344		+	+	-	<del>                                     </del>	+		-
HRX-like protein	1	Y08836		+-	-	╁				
(=AF010403 ALR)					ļ					
hsc70 gene for 71 kd heat shock cognate protein	3	Y00371								
HSPC012	1	AF077036.1		+-		_	<del>                                     </del>			_
HSPC021	1	AF077207.1	.,- ,- ,,,	+		<del>                                     </del>	_			
HsPex13p	- 1	U71374		+	$\vdash$	<del> </del>			-	
htra2-beta-2	1	U87836	+	+	+	+		+		
HU-K4	1	U60644		<del> </del>	<del> </del>	<del>                                     </del>	<del>                                     </del>			
hunc18b2	1	U63533	-	+	+	+		+		
HUNKT	1	Y12059	+	+		+	+	+		_
huntingtin-interacting protein HYPA/FBP11	1	AF049528		1						_
(HYPA)				<u> </u>	ļ	<u> </u>				
hVps41p (HVPS41)	1	U87309		1		_	L.	<u> </u>		
hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl- Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), alpha subunit (HADHA)	1	U04627		+	+		+			
hydroxyacyl-Coenzyme A dehydrogenase/3-ketoacyl- Coenzyme A thiolase/enoyl-Coenzyme A hydratase (trifunctional protein), beta subunit (HADHB)	1	D16481	+	+	+	+		+	·	
hydroxysteroid (17-beta) dehydrogenase 1 (HSD17B1)	1	U34879		+			+			
hypothetical protein	1									
hypothetical protein (AL008729) (dJ257A7.2)	1						l			
hypothetical protein		U96629		+	├──	<u> </u>		<del>                                     </del>		_
(ČÌT987SK_2A8_1 chromosome 8)										
hypothetical protein (clone 24640)	1	AF055004								
hypothetical protein (clone ICRFp507G2490).	1	Z70222								
hypothetical protein (dJ1042K10.4) (non-exact 76%)	-	AL022238								
hypothetical protein (dJ465N24.1 similar to predicted yeast and worm proteins)	2	AL031432								
hypothetical protein (dJ487J7.1.1)	2 ·	AL008730								
hypothetical protein (dJ753P9.2)	2	AL023653								
hypothetical protein (DKFZp5861111)	1	AL050131.1								
hypothetical protein (J257A7.2)	1	AL008729								
hypothetical protein (KIAA0440) (=AF026504 R.norvegicus SPA-1 like protein)	1	AB007900								
hypothetical protein (L1H 3' region)	1									
hypothetical protein (S164)	1	P49756								

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hypothetical protein (similar to thrombospondin) (non- exact 56%)	1	AF109907							
hypothetical protein 3	1								
hypothetical protein B (HSU47926) (non-exact, 156%)	1	U47926							
hypothetical protein from BCRA2 region (CG005)	3	U50532	+	+	+	+		+	
hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription	1	AF050115				i			
factor) (HIF1A)	1	M13555		-		<u> </u>			
gamma-chain (clones lambda-y (1,2,3))									
iduronate 2-sulfatase (Hunter syndrome) (IDS)	2	M58342	+	+	+	+		+	
Ig heavy chain V region (=D11016)	1	L20779							
Ig heavy chain variable region	2	M34024							
Ig heavy chain variable region (VH4DJ) (clone T14.4)	1	275378							
lg heavy chain variable region (VH4DJ) (clone T22.18)	1	275392							
lg J cháin	1	M12378							
lg kappa	1	S49007		<b>—</b>	1			<b></b> -	
IG kappa light chain variable region A20	ſ	X63398							
Ig kappa light chain, V- and J-region (=X59315)	1	D90158							
Ig lambda light chain variable region (26- 34ITIIIF120)	1	Z85052							
Ig mu-chain VDJ4-region	1	M16949							
Ig rearranged anti-myelin kappa-chain (V-J4-region, hybridoma AE6-5)	1	M29469							
Ig rearranged H-chain mRNA V-region	2	M97920							
Ig rearranged light-chain V region (=D90158)	- 1	M74020							
IGF-II mRNA-binding protein 3 (KOC1) (non- exact, 75%)	1	U97188	+	+	+				
IgG Fc binding protein (FC(GAMMA)BP)	1	D84239	+	+		+		+	
IgG heavy chain variable region (vH26)	1	M83136							
IgM heavy chain (C mu, membrane exons)	1	X14939							
IkB kinase-beta (IKK-beta)	1	AF029684			<u> </u>	<u> </u>		L.	
IL-1 receptor type II IL2-inducible T-cell kinase	1 2	U14177 S65186		1	<u> </u>	_		-	
(ITK)	1	M62831	+	-	+	+		+	
(ETR101)	1	D87018		-	<u> </u>	-			
(lambda) Immunoglobulin (CD79A)	1	Y08915	В, Т	+	+	_	+	_	
binding protein 1 (IGBP1) immunoglobulin C (mu) and	2	X57331		-		-		-	
C (delta) heavy chain (=K02878)									
immunoglobulin G Fc receptor IIIB	1	Z46223			<u> </u>			_	high in many libraria
immunoglobulin gamma 3 (Gm marker) (IGHG3)	3	Y14737	+		<u> </u>	+		+	high in many libraries
			•						

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immunoglobulin gamma heavy chain variable region (=X61011)	1	Z66542									
immunoglobulin heavy chain (VI-3B)	1	X62109									
immunoglobulin heavy chain J region	1	X86356									
immunoglobulin heavy chain J region, B1 haplotype	2	X86355									
immunoglobulin heavy chain variable region (IGH) (clone 21u-48)	1	AF062126									
immunoglobulin heavy chain variable region (IGH) (clone 23u-1)	1	AF062212									
immunoglobulin heavy chain variable region V1-18 (IGHV@) (=X60503)	2	M99641									
immunoglobulin heavy chain variable region V3-43 (IGHV@)	2	M99672									
immunoglobulin heavy chain variable region V3-7 (IGHV@)	3	M99649	-								-
immunoglobulin IgH heavy chain Fd fragment	1	U07986									
immunoglobulin kappa light chain	1	X58081									
immunoglobulin kappa light chain V-segment A27	1	X12686									
immunoglobulin light chain	1	D86990									
immunoglobulin light chain (low match)	1	D86996									
immunoglobulin light chain variable region (lambda IIIb subgroup) from IgM rheumatoid factor	1	L29157									
immunoglobulin M heavy chain V region=anti-lipid A antibody	1	S50735									
immunoglobulin mu (IGHM)	9	X57086	+	+		+		+			
immunoglobulin mu binding protein 2 (IGHMBP2)	1	L24544		+			+				
immunoglobulin superfamily, member 2 (IGSF2)	1	Z33642									
immunoglobulin VH mRNA (487 bp) (=M99652 immunoglobulin heavy chain variable region V3-11 ((GHV@))	1	X61013									
imogen 38 (IMOGEN38)	1	Z68747		+	+	+		+			
IMP (inosine monophosphate) dehydrogenase 1 (IMPDH1)	1	J05272	+	+	+	+					
IMP (inosine monophosphate) dehydrogenase 2 (IMPDH2)	2	L39210	+	+	+	+		+			
inc finger protein 151 (pHZ- 67) (ZNF151)	1	Y09723	+	+	+	+		+			
inc finger protein, C2H2, rapidly turned over (ZNF20)	1	AF011573		+	+						
inducible poly(A)-binding protein (IPABP)	1	U33818	+	+	+	+		+			
inducible poly(A)-binding protein (IPABP) (low match)	1	U33818									

Inducible protein   2	
inhibitor of DNA binding 2, dominant negative helix-loop-helix protein (ID2) Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase complex-associated protein (IKBKAP) Inositol 1,3,4-trisphosphate 1 U51336 + + + + + + + + + + + + + + + + + +	
Inhibitor of kappa light	
1	
receptor type 1 (ITPR1)	
3-kinase B (ITPKB) Inositol monophosphatase 1 S38980 Inositol polyphosphate-5- phosphatase, 145kD (INPP5D) Ins(1,3,4,5)P4-binding 1 X89399 + + protein Insulin-like growth factor 2 5 Y00285 + + + + + + + + + + + + + + + + + + +	
inositol polyphosphate-5- 2 U84400 + + + + + + + + + + + + + + + + + +	
phosphatase, 145kD (INPP5D) Ins(1,3,4,5)P4-binding 1 X89399 + + + + + protein insulin-like growth factor 2 5 Y00285 + + + + + + + receptor (IGF2R)	
protein insulin-like growth factor 2 5 Y00285 + + + + + + receptor (IGF2R)	
receptor (IGF2R)	
integral membrane protein 1 38961 + + + +	
1 (IŤM1)	
integral membrane protein 1 AF038953 T + + + + + + + + + + + + + + + + + +	
Integral membrane protein 3 U61734 + + + + + + + + Tmp21-I (p23)	
integrin beta 4 binding 2 AF047433 + + + protein (ITGB4BP)	
integrin, alpha 2b (platelet 3 M34480 + + + +   glycoprotein lib of lib/lila   complex, antigen CD41B) ((ITGA2B)	
integrin, alpha 5 4 X06256 + + + + + + + + + + + + + + + + + + +	
intégrin, alpha L (antigen 6 Y00796 CD11A (p180), lymphocyte function-associated antigen 1; alpha polypeptide) (ITGAL)	
integrin, alpha M 1 M18044 (complement componentreceptor 3, alpha; also known as (CD11b (p170), macrophage antigen alpha polypeptide) (ITGAM)	
integrin, alpha X (antigen 1 M81695 + + + + + CD11C (p150), alpha polypeptide) (ITGAX)	
integrin, beta 1 (fibronectin 2 X07979 receptor, beta polypeptide, antigen CD29 includes MDF2 MSK12) (ITGB1)	
integrin, beta 2 (antigen 32 M15395 + + + + + + + CD18 (p95), lymphocyte function-associated antigen 1; macrophage antigen 1 (mac-1) beta subunit) (ITGB2)	
integrin, beta 7 (ITGB7) 1 M68892 +	
Integrin-linked kinase (ILK) 1 U40282 + + + + + + +	
intercellular adhesion 1 J03132 + + + + + + holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 1 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicular adhesion 2 holicul	
intercellular adhesion 1 X15606 + + + + + + molecule 2 (ICAM2)	

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4	M91196 X15949		lymp	homa				
4	X15949					j		
4								
	T 05077	<b>T</b>	+	+	+			
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	U51127	+	+		+	X.		
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3	X84958		+	+	+		+	
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_					<u> </u>			
		+			+			
5	X12830		+				+	
	M57230							
14	M29696	+					+	
1	AF043123							
8	Ý00787	+		+		+		High in activated T cells, bone and pancreatic islets
	2 9 1 3 5 5 1 5 2 1 1 2 2 6 1 9 6 3 5	2 M63838 9 J03909 1 P32455 3 X84958 5 M14660 5 X57351 1 X57352 5 Y10313 2 M87503 1 U64094 1 U08988 2 U03187 2 Y09328 6 U82972 1 U43672 9 M26062 6 D11086 3 X52425 5 X12830 1 M57230 14 M29696 1 AF043123 8 Y00787	2 M63838 + 9 J03909 + 1 P32455  3 X84958 5 M14660 5 X57351 T 1 X57352 5 Y10313  2 M87503 1 U64094 1 U08988 Tactivate 2 U03187 + 2 Y09328 6 U82972 1 U43672 9 M26062 6 D11086 + 3 X52425 + 5 X12830 1 M57230  14 M29696 + 1 AF043123	2 M63838 + + + 9 J03909 + + + 1 P32455  3 X84958 + 5 M14660 5 X57351 T 1 X57352 5 Y10313 + 2 M87503 + 1 U64094 1 U08988 Tactivated 2 U03187 + 2 Y09328 + 6 U82972 + 1 U43672 9 M26062 6 D11086 + 3 X52425 + + 5 X12830 + 1 M57230  14 M29696 + 1 AF043123 8 Y00787 +	2 M63838 + + + + + + + + + + + + + + + + + +	2 M63838 + + + + + + + + + + + + + + + + + +	2 M63838 + + + + + +   9 J03909 + + + + +   1 P32455	2 M63838 + + + + + + + + + + + + + + + + + +

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WO 00/40749								•	C1/CA00/00003
interleukin 8 receptor alpha (ILBRA)	11	L19591							
interleukin 8 receptor, beta (IL8RB)	14	M94582							
interleukin enhancer binding factor 2, 45kD (ILF2)	3	U10323	+	+	+	+	+	+	high in uterus
interleukin enhancer binding factor 3, 90kD (ILF3)	2	U10324							
interleukin-1 receptor- associated kinase 1 (IRAK1)	2	L76191		+	+	+		+	
interleukin-1 receptor- associated kinase 1 (low match)	1	U52112							
interleukin-10 receptor, alpha (IL10RA)	5	U00672	+	+	+	+			
interleukin-11 receptor, alpha (IL11RA)	7	Z38102		+	+				
INTERLEUKIN-14 PRECURSOR (IL-14) (HIGH MOLECULAR WEIGHT B-CELL GROWTH FACTOR) (HMW-BCGF) (non-exact 46%)	1	P40222							
intestinal carboxylesterase; liver carboxylesterase-2 (ICE)	1	U60553		+			+		
inversin protein (non-exact 52%)	1	AF084367							
IQ motif containing GTPase activating protein 1 (IQGAP1)	6	L33075							
IQ motif containing GTPase activating protein 2 (IQGAP2)	1	U51903		+		+			
isocitrate dehydrogenase 1 (NADP+), soluble (IDH1)	1	AF020038	+	+	+	+	+	+	
isocitrate dehydrogenase 2 (NADP+), mitochondrial (IDH2)	2	X69433	+	+	+	+	+	+	
isocitrate dehydrogenase 3 (NAD+) alpha (IDH3A)	2	U07681			+				
isocitrate dehydrogenase 3 (NAD+) gamma (IDH3G)	1	Z68907	+	+	+	+		+	
isolate Aus3 cytochrome b (CYTB)	1	AF042516							
isolate TzCCR5-179 CCR5 receptor (CCR5)	1	AF011524							
isopentenyl-diphosphate delta isomerase (IDI1)	5	X17025	+	+	+	+		+	
Janus kinase 1 (a protein tyrosine kinase) (JAK1)	4	M64174	+	+	+	+		+	
Janus kinase 2 (a protein tyrosine kinase) (JAK2)	1	AF005216							
Jk-recombination signal binding protein (RBPJK)	2	L07876							
JM1 protein	1	AJ005890		+		+			
jumonji (mouse) homolog (JMJ)	1	U57592		+	+	+		+	
jun D proto-oncogene (JUND)	1	X51346	+	+	+	+		+	
jun dimerization protein	1	AF111167							only found in germ
junction plakoglobin (JUP)	1	M23410	l	+	+	+		+	L

Lumorigenicity 6, prostate;   CD82 antigen (R2   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte antigen   R7   elukocyte   R7   elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte   Elukocyte	WO 00/40749								-	C1/CA00/00003
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1 (KPNB1)  Karyopherin (Importin) beta 2 (KPNB2)  Karyopherin alpha 5 (KPNA1)  Karyopherin alpha 1 (VP2395	monoclonal and antibody (KAI1)									
2 (KPNB2) Karyopherin alpha 1	1 (KPNB1)	L 7		+	+	+	+	+	+	
(Importin alpha 5) (KPNA1) (Karyopherin alpha 2 (RAG) cohort 1, importin alpha 1) (DPNA2) (Karyopherin alpha 3) (Importin alpha 3) (Importin alpha 4) (KPNA3) (Karyopherin alpha 4) (KPNA3) (KPNA4) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (KRO) (K	2 (KPNB2)	1		+	+	+	+			
cohort 1, importin alpha 1) (DPNA2) karyopherin alpha 3 (Importin alpha 4) (KPNA4) karyopherin alpha 4 (KPNA4) Katanin (80 kDa) (KAT) Katanin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Katenin (80 kDa) (KAT) Kat	(importin alpha 5) (KPNA1)			+	+	+		+		
Karyopherin alpha 3 (RPNA3)	cohort 1, importin alpha 1)	1	U09559							
Karyopherin alpha 4	karyopherin alpha 3 (importin alpha 4) (KPNA3)	1	D89618		+			+		
KE03 protein 2 AF064604	(KPNA4)				+	+				
National Content		1			+	+	+	Γ	+	
protein 1 (KIAA0132) (66%4aa) Keratin 8 (KRT8) 1 X74929	KE03 protein	2	1							
Kerain 8 (KRT 8)	protein 1 (KIAA0132)	1								
(fructokinase) (KHK) (KIAA0001)	Keratin 8 (KRT8)	1	X74929		+	+	+	+	+	
(72% aa) (XIAA0001 (KIAA0001) (76% aa) (XIAA0001 (KIAA0001) (76% aa) (XIAA0002 (KIAA0002) 5 D13627 + + + + + + + + + + + + + + + + + + +	(fructokinase) (KHK)	1			+		+	+		
Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Color   Colo		1	Q15391							
CALADOOT (KIAADOOT)	KIAA0001 (KIAA0001)	1	Q15391		_					
KIAA0002 (KIAA0005) KIAA0005 (KIAA0005) KIAA0010 (KIAA0010) 1 D13635 KIAA0011 (KIAA0016) 1 D13635 KIAA0017 (KIAA0017) 2 D87686 KIAA0017 (KIAA0022) 2 D14664 KIAA0023 (KIAA0023) 1 D14689 KIAA0024 (KIAA0023) 1 D14689 KIAA0025 (KIAA0024) 1 D14695 KIAA0025 (KIAA0025) 1 D14695 KIAA0025 (KIAA0026) 2 D14812 + + + + + + + + + + + + + + + + + + +	KIAA0001 (KIAA0001)	1	Q15391							
KIAA0010 (KIAA0010)  1 D13635	KIAA0002 (KIAA0002)	5	D13627		+	+	+	1	+	<u> </u>
KIAA0016 (KIAA0016)   1	KIAA0005 (KIAA0005)	4	D13630		+	+	+	$\vdash$	+	
KIAA0017 (KIAA0017)       2       D87686         KIAA0022 (KIAA0022)       2       D14664       + + + + + + + + + + + + + + + + + + +	KIAA0010 (KIAA0010)	1	D13635		+			1	+	
KIAA0022 (KIAA0022)	KIAA0016 (KIAA0016)		D13641	+	+	+	+	_	+	
KIAA0023 (KIAA0023)	KIAA0017 (KIAA0017)	2	D87686				<del>                                     </del>	<del>                                     </del>		
KIAA0024 (KIAA0024)	KIAA0022 (KIAA0022)	2	D14664		+	+	+			
KIAA0025 (KIAA0025)       1       D14695       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       + </td <td>KIAA0023 (KIAA0023)</td> <td>1</td> <td>D14689</td> <td></td> <td>+</td> <td></td> <td><math>\vdash</math></td> <td></td> <td></td> <td></td>	KIAA0023 (KIAA0023)	1	D14689		+		$\vdash$			
KIAA0026 (KIAA0026)       2       D14812       +       +       +       +       +       +       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -        -       -       -       -       -       -       -       -       -       -       -       -       -       -       -        -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	KIAA0024 (KIAA0024)	1	D14694	+	+	+	+	<del>                                     </del>	+	
KIAA0027	KIAA0025 (KIAA0025)	1	D14695		+	+	+	+	+	
KIAA0032 (KIAA0032)       2       D25215       + + + + + + + + + + + + + + + + + + +	KIAA0026 (KIAA0026)	2	D14812		+	+	+	_	+	
KIAA0040 (KIAA0040)       1       D25539       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       + </td <td>KIAA0027</td> <td>1</td> <td>D25217</td> <td></td> <td>+</td> <td></td> <td></td> <td></td> <td><u> </u></td> <td></td>	KIAA0027	1	D25217		+				<u> </u>	
KIAA0050 (KIAA0050)       4       D26069	KIAA0032 (KIAA0032)	2	D25215		+	+	+			
KIAA0053 (KIAA0053)       17       D29642       +       +       +       +       +       h       h high in fetal lung         KIAA0057 (KIAA0057)       1       D31762       +       +       +       +       +       h high in fetal lung         KIAA0058 (KIAA0058)       11       D31767       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       + <t< td=""><td>KIAA0040 (KIAA0040)</td><td>1</td><td>D25539</td><td>+</td><td>+</td><td>+</td><td>+</td><td></td><td>+</td><td></td></t<>	KIAA0040 (KIAA0040)	1	D25539	+	+	+	+		+	
KIAA0057 (KIAA0057)       1       D31762       +       +       +       +       +       high in fetal lung         KIAA0058 (KIAA0058)       11       D31767       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +	KIAA0050 (KIAA0050)	4	D26069							
KIAA0058 (KIAA0058)  11	KIAA0053 (KIAA0053)	17	D29642	+		+	+		_	
KIAA0063 (KIAA0063)       3       D31884       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       + </td <td>KIAA0057 (KIAA0057)</td> <td>1</td> <td>D31762</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>+</td> <td>high in fetal lung</td>	KIAA0057 (KIAA0057)	1	D31762	+	+	+	+	+	+	high in fetal lung
KIAA0063 (KIAA0063)       3       D31884       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       + </td <td>KIAA0058 (KIAA0058)</td> <td>11</td> <td>D31767</td> <td>+</td> <td></td> <td>+</td> <td>+</td> <td></td> <td>+</td> <td></td>	KIAA0058 (KIAA0058)	11	D31767	+		+	+		+	
KIAA0066       1       D31886       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       <	KIAA0063 (KIAA0063)	3	D31884	+	+	+	+	-	+	
KIAA0068       1       D38549       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       +       <	KIAA0064 (KIAA0064)	1	D31764	+	+	+	+		+	
KIAA0073     3     D38552     +     +     +     +       KIAA0081     2     D42039     +     +     +     +       KIAA0084     2     D42043     +     +     +     +       KIAA0085     26     U30498     +     +     +     +     +       KIAA0088     3     D42041     +     +     +     +     +       KIAA0090     2     D42044     +     +     +     +     +	KIAA0066	1	D31886	+	+	+	+		+	
KIAA0081 2 D42039 + + + + + KIAA0084 2 D42043 + + + + + + KIAA0085 26 U30498 + + + + + + + KIAA0088 3 D42041 + + + + + + + KIAA0090 2 D42044 + + + + + + + +	KIAA0068	1	D38549		+	+	+	+	+	
KIAA0084 2 D42043 + + + + + + + + KIAA0085 26 U30498 + + + + + + + + KIAA0088 3 D42041 + + + + + + + + KIAA0090 2 D42044 + + + + + + + + + + + + + + + + + +	KIAA0073	3	D38552	<del></del>	+	+	+		+	
KIAA0085 26 U30498 + + + + + + + + KIAA0088 3 D42041 + + + + + + + KIAA0090 2 D42044 + + + + + + + +	KIAA0081	2	D42039	·	+		+		+	
KIAA0088 3 D42041 + + + + + + + + KIAA0090 2 D42044 + + + + + + +	KIAA0084		D42043	+	+	+	+	_	+	
KIAA0088 3 D42041 + + + + + + + + KIAA0090 2 D42044 + + + + + + + +	KIAA0085	26	U30498	+	+	+	+	+	+	
KIAA0090 2 D42044 + + + + + + +	KIAA0088		D42041	+	+	+	+	+	+	
	KIAA0090			+	+	+	+	+	+	
	KIAA0092 (KIAA0092)			<del></del>	+	+	+	$\vdash$	+	<del></del>

KIAA0094	3	D42084			+	+			
KIAA0095 (KIAA0095)	1	D42085							
KIAA0096	1	D43636	+	+	+	+		+	
KIAA0097 (KIAA0097)	- T	X92474	T	+	+		+		
KIAA0099 (KIAA0099)	3	D43951	+	+	+	+	+	+	
KIAA0102 (KIAA0102)	2	D14658		+		+	+	+	
KIAA0105	1	D14661	В	+			+	+	
KIAA0120	2	P37802							
KIAA0120 (non-exact, 65%)	1	M83106							
KIAA0121 (KIAA0121)	1	D50911	+	+	+	+		+	
KIAA0123	1	D21064		+	+	+		+	
KIAA0128	1	D50918	+	+	+	+		+	
KIAA0129 (KIAA0129)	1	D50919	+	+	+	+			
KIAA0130 (KIAA0130)	1	AF055995		+	+	+			
KIAA0136	2	D50926							
KIAA0137 (KIAA0137)	1	AB004885		+	+	+		+	
KIAA0140 (KIAA0140)	1	D50930	+	+		+		+	
KIAA0141 (KIAA0141)	3	D50931		1		1			
KIAA0144 (KIAA0144)	3	D63478	+	+	+	+		+	
KIAA0144 (KIAA0144) (low match)	1	D63478							
KIAA0144 (non-exact 61%)	1	Q14157							
KIAA0144 (non-exact 65%)	1	Q14157		†	<del>                                     </del>			<del>                                     </del>	
KIAA0146	2	D63480		+	+	+	1	+	
KIAA0148 (KIAA0148)		D63482		+		<u> </u>	1	+	
KIAA0154	2	D63876	+	+	+	+		+	
KIAA0156	1	D63879		+	+	+	<u> </u>	+	
KIAA0160	2	D63881		$\vdash$		<del>                                     </del>	$t^-$	<del>                                     </del>	
KIAA0161 (KIAA0161)	1	D79983	+	+	<del>                                     </del>	+	<del>                                     </del>	1	
KIAA0164 (KIAA0164)	3	D79986		<del>                                     </del>		$t^-$	1	<del>                                     </del>	
KIAA0167 (KIAA0167)	<del>-</del> 1	D79989		+	-	1	1	<del> </del>	
KIAA0168 (KIAA0168)	3	D79990	<u> </u>	++	+	+	+-	+	
KIAA0169	3	D79991		+	<del>                                     </del>	<del>                                     </del>	+-	+	
KIAA0171 (KIAA0171)	3	D79993		+	+	+	╁─	+	ļ. ————
KIAA0174 (KIAA0174)	7	D79996	+	++	+	+	┼	+	
KIAA0179		D80001		+-+	+	+	<del> </del>	+	<del> </del>
KIAA0181	1	D80003	<u> </u>	+	+	+	<del> </del>	+	<del> </del>
KIAA0183	4	D80005	+	+	+	+	+	+	<del>                                     </del>
KIAA0184	<del>1</del>	D80006	+	+	+	+	+-	+	
KIAA0191 (72% aa)		D83776	<u> </u>	+-	+	$\vdash$	+-	+	
KIAA0191 (non-exact 77%)		200770	<u> </u>	+	-	+-	$\vdash$	+-	
	<del></del>	D83777	+	++	+	+	+-	+	
KIAA0193 (KIAA0193) KIAA0200 (KIAA0200)	<del></del>	D83785	<u> </u>	++	+	+	+	++	<del> </del>
, , ,	3	D86965		+-	<del>├</del> ं	<del>                                     </del>	+-	<del>                                     </del>	
KIAA0210 (KIAA0210)	2	D86903	+	+	+	+	╀	+	
KIAA0217		U77700	ļ	+ +	++	+	-	++	<del> </del>
KIAA0219	2			+	<u> </u>	<del>                                     </del>	-	<del>                                     </del>	
KIAA0222 (KIAA0222)	1	D86975		4	-	-	├-	↓_	
KIAA0223	2	D86976		<del> </del>	<del>   </del>	4	<b> </b>	₩	<u> </u>
KIAA0229	1	D86982	+	+	<del> </del>	ļ.	$\perp$	<del>  </del>	
KIAA0232 (KIAA0232)	1	D86985		+	+	+	1	+	
KIAA0233 (KIAA0233)	1	D87071			<u> </u>		_		
KIAA0235	2	D87078	+	+	+	+		_	
KIAA0239	1	D87076	+	+					

KIAA0239 (non-exact 80%)	<del>- 1</del>	D87076							
KIAA0240	<del>- i -</del>	D87077		-		$\vdash$			
KIAA0242	4	D87684	+	+	+	+	+	+	
KIAA0248	2	D87435		+	+	+		+	
KIAA0249 (KIAA0249)	3	D87436	+	┝┯┤	+	+		+	
KIAA0253	5-	D87442	+	+	+	+	+	+	
KIAA0254 (KIAA0254)	<del>- 1</del>	D87443		+	+	+			
KIAA0255(KIAA0255)	4	D87444		+	+	+		+	
KIAA0262 (KIAA0262)	3	D87451		+	+	+		+	
		D87452	+	+	+	+		+	
KIAA0263 (KIAA0263)	3	D87453	T	+ +	+	+		+	
KIAA0264	<del>- 1 -</del>	D87742	+	+		+		+	
KIAA0268		Q92558		ļ. <u> </u>		ļ.		Ľ	
KIAA0269	1			<del></del>		+	ļ	+	-
KIAA0275 (KIAA0275)	13	D87465	+	+ +	+	+	+	+	
KIAA0304 (KIAA0304)	2	AB002302	<u> </u>	+	+	<u> </u>	<u> </u>	+	
KIAA0308	2	AB002306	<del></del>	L			<u> </u>		
KIAA0310 (KIAA0310)	1	AB002308		+	+	+	<u> </u>	+	
KIAA0314 (=U96635 M.musculus ubiquitin protein ligase Nedd-4)	3	AB002312							
KIAA0315 (KIAA0315)	4	AB002313		+	+	+	+	+	
KIAA0325 (=L08505 R.norvegicus cytoplasmic dynein heavy chain (MAP 1C))	2	AB002323							
KIÁA0329 (KIAA0329)	1	AB002327		+	+	+		+	
KIAA0330	1	AB002328	+	+	+			+	
KIAA0332	1	AB002330		+	+	+		+	
KIAA0333	2	AB002331		+	+	+	+	+	
KIAA0336 (KIAA0336)	3	AB002334	+	+	+	+		+	
KIAA0336 (KIAA0336) (low match)	1	AB002334							
KIAA0342 (KIAA0342)	1	AB002340		+	+			+	
KIAA0344 (KIAA0344)	2	AB002342		1		+		+	
KIAA0354 (KIAA0354)	7	AB002352	+	+	+	+		+	<u> </u>
KIAA0365 (KIAA0365)	3	AB002363	+ -	+	+	+	+	+	<u> </u>
KIAA0370	6	AB002368		+	+	+	+	+	
KIAA0372 (KIAA0372)	1	AB002370					Ι		
KIAA0373 (KIAA0373)	1	AB002371		+		+			
KIAA0375 (KIAA0375)	1	AB002373		+		+			
KIAA0377 (KIAA0377)	1	AB002375		+		+	+		
KIAA0379	1	AB002377				+		$\Box$	
KIAA0379 (non-exact, 65%)	7	AB002377							
KIAA0380 (KIAA0380)	1	AB002378	+	+	L	+		+	
KIAA0380 (KIAA0380) (60%aa)	1	AB002378				L			
KIAA0382 (KIAA0382)	2	AB002380		+	+	T+_	<u> </u>	+	
KIAA0383	1	AB002381		1		<u> </u>	<u> </u>	<u> </u>	
KIAA0386 (KIAA0386)	5	AB002384				ļ			
KIAA0392	1	AB002390							
KIAA0397 (KIAA0397)	4	AB007857		+	+	+	+	+	
KIAA0403	3	AB007863							
KIAA0404	1	AB007864		+		+			·
KIAA0409	1	AB007869		+	Ĺ	+			
KIAA0421	1	AB007881	+	+	+			+	
KIAA0424 (non-exact 82%)	1	AB007884							

KIAA0449	WO 00/40749								PC	T/CA00/00005
KIRADQ429 (KIRADQ429)	KIAA0428 (KIAA0428)	9	Y13829					Ĭ		
KIRADQ432 (KIAAD432) 2 U88753 1 + + +   Only in ovary KIRAQ0432 (KIAAD432) 2 U88763 1 + + +   Only in ovary KIRAQ0432 (KIAAD435) 1 AB007895 + + + + + + +   ONLY in ovary KIRAQ0433 (KIAAD435) 1 AB007895 + + + + + + +   ONLY in ovary KIRADQ433 (KIAAD435) 1 AB007895 + + + + + + +   ONLY in ovary KIRADQ439 (KIAAD447) 3 AB007918 + + + + + + +   ONLY in ovary KIRADQ449 1 AB007918 + + + + + +   ONLY in ovary KIRADQ495 (KIRADQ495) 1 AB007927 + + + + +   ONLY in ovary KIRADQ496 (KIRADQ465) 1 AB007931 + + + + + + +   ONLY in ovary KIRADQ462 1 AB007931 + + + + + +   ONLY in ovary KIRADQ462 1 AB007931 + + + + + +   ONLY in ovary KIRADQ462 1 AB007931 + + + + + +   ONLY in ovary KIRADQ496 1 AB007931 + + + + + +   ONLY in ovary KIRADQ496 1 AB007931 + + + + + +   ONLY in ovary KIRADQ497 1 AB007945   + + + + + +   ONLY in ovary KIRADQ497 1 AB007945   + + + + + +   ONLY in ovary KIRADQ497 1 AB007953 + + + + + + +   ONLY in ovary KIRADQ515 1 AB011097 + + + + + + +   ONLY in ovary KIRADQ529 1 AB011097 + + + + + +   ONLY in ovary KIRADQ529 1 AB011109 + + + + + + +   ONLY in ovary KIRADQ530 1 AB011109 + + + + + + +   ONLY in ovary KIRADQ531 1 AB011110 + + + + + + +   ONLY in ovary KIRADQ531 1 AB011110 + + + + + + +   ONLY in ovary KIRADQ531 1 AB011110 + + + + + + +   ONLY in ovary KIRADQ531 1 AB011112 + + + + + + +   ONLY in ovary KIRADQ531 1 AB011112 + + + + + + +   ONLY in ovary KIRADQ531 1 AB011113 + + + + + +   ONLY in ovary KIRADQ531 1 AB011113 + + + + + +   ONLY in ovary KIRADQ531 1 AB011113 + + + + + +   ONLY in ovary KIRADQ531 1 AB011113 + + + + + +   ONLY in ovary KIRADQ531 1 AB011113 + + + + + +   ONLY in ovary KIRADQ531 1 AB011113 + + + + + +   ONLY in ovary KIRADQ531 1 AB011133 + + + + + +   ONLY in ovary KIRADQ531 1 AB011133 + + + + + +   ONLY in ovary KIRADQ531 1 AB011133 + + + + + + +   ONLY in ovary KIRADQ531 1 AB011135 + + + + + + +   ONLY in ovary KIRADQ532 (KIRADQ53) 1 AB011135 + + + + + +   ONLY in ovary KIRADQ533 (KIRADQ53) 1 AB011135 + + + + + +   ONLY in ovary KIRADQ543 1 AB011135 + + + + + +   ONLY in ovary K	•	2	AB007889	+	+	+	+		+	
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KIAA0671 (KIAA0871)     1     AB014571     +     +     +       KIAA0675 (KIAA0675)     1     AB014575     +     +     +     +       KIAA0676     1     AB014576     +     +     +     +       KIAA0677 (KIAA0677)     2     AB014577     +     +     +     +       KIAA0678     1     AB014578     +     +     +     +	KIAA0668	1	AB014568							
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KIAA0699	1	AB014599	+	+	+	+		+	
KIAA0700	1	AB014600		+	+	+		+	
KIAA0737 (KIAA0737)	3	AF014837	+	+	+	+		+	
KIAA0748 (KIAA0748)	2	AB018291		+					
KIAA0763 (KIAA0763)	2	AB018306	+	+	+	+		+	
KIAA0769 (KIAA0769)	2	AB018312		+	+	+		+	
KIAA0782	1	AB018325	+	+		+			high in BPH stroma
KIAA0796	1	AB018339		+	+	+		+	
KIAA0798 (KIAA0798)	1	AB018341							
KIAA0823	1	AB020630							
KIAA0854	1	AB020661	+	+	+	+		+	
KIAA0856	1	AB020663		+	+	+		+	
KIAA0860	1	AB020667		+		+		_	
KIAA0862	1	AF054828		+	+	+		_	
KIAA0871 (non-exact 88%)	<del></del>	AB020678		+	<b> </b>	1			
KIAA0873	<del></del>	AB020680		+	+	+	-	+	
KIAA0892	1	AB020699	+	+	+	+	$\vdash$	+	
KIAA0906	<del>i</del>	AB020713	+	+	+	+	<del> </del>	+	
KIAA0991	1	AB023208.1		+		<del>                                     </del>	<del> </del>	_	
killer cell lectin-like	1	U11276		-	+	+	_	+	
receptor subfamily B, member 1 (KLRB1)	'								
killer cell lectin-like receptor subfamily C, member 4 (KLRC4)	1	U96846					1		
kinectin 1 (kinesin receptor) (KTN1)	1	D13629							
kinesin family member 5B (KIF5B)	2	X65873		+	+	+			
kinesin-like DNA binding protein	1	AB017430	+	+	+	+		+	
Krueppel-related DNA- binding protein (TF6) (low match)	1	M61869							
Kruppel related gene (clone pHKR1RS)	1	M20675							
Kruppel-like zinc finger	3	U51869	+	T +	+	+	+	+	
protein Zf9 Kruppel-like zinc finger protein Zf9 (non-exact	1	U44975		+-	+		+	+	
kruppel-type zinc tinger	1	AB011414.1		╁┈	<del> </del>	<del> </del>			
protein, ZK1 L apofernitin	3	X03742		+	$\vdash$	1-	<del>                                     </del>	-	
lactate dehydrogenase A (LDHA)	3	X02152		+	+	+	+	+	
lactate dehydrogenase A (LDHA) (non-exact, 81%)	1	X02152							
lactate dehydrogenase B (LDHB)	6	X13794	+	+	+	+	+	+	high in fetal lung fibrablast
lactotransferrin (LTF)	1	U07643	+			+		+	high in bone marrow
laminin binding protein (low score)	1	D28372							
laminin receptor 1 (67kD); Ribosomal protein SA (LAMR1)	20	X15005	+	+	+	+	+	+	high in many libraries
laminin receptor homolog (3' region)	1	S35960							
laminin, gamma 1 (formerly LAMB2) (LAMC1)	2	J03202	+	+	+			+	

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latent transforming growth factor beta binding protein 1 (LTBP1)	2	M34057		+	+	+		+	
LAZ3/BCL6 (=Z79582;D28522/4)	1	Z79581							
LDLC	2	Z34975	+	+	+	+		+	
lecithin-cholesterol acytransferase (LCAT) (non-exact, 66%)	1	M17959							
lectin, galactoside-binding, soluble, 2 (galectin 2) (LGALS2)	1	M87842				+			
lectin, galactoside-binding, soluble, 3 binding protein (galectin 6 binding protein) (LGALS3BP)	1	L13210	+	+	+	+		+	
leucine rich repeat (in FLII) interacting protein 1 (LRRFIP1)	5	AJ223075	+	+	+	+	+	+	
leucocyte immunoglobulin- like receptor-5 (LIR-5)	2	AF072099				+			
leucocyte immunoglobulin- like receptor-6a (LIR-6)	7	AF025530							
leucocyte immunoglobulin- like receptor-7 (LIR-7)	2	U82275		+					only found in CNS
leukemia virus receptor 1 (GLVR1)	1	L20859	+	+	+	+		+	
leukocyte adhesion protein p150,95 alpha subunit	1	M29484							
leukocyte antigen, HLA-A2	3	Y13267							
leukocyte immunoglobulin- like receptor (MIR-10)	3	AF025528		+					
leukocyte tyrosine kinase (LTK)	1	X60702	+						found only in blood
leukocyte-associated lg- like receptor 1 (LIAR1)	3	AF013249				+			
leukotriene A4 hydrolase (LTA4H)	6	J03459	+	+	+	+	+	+	
Teupaxin (LDPL)	2	AF062075	+			+		+	<u> </u>
ligase I, DNA, ATP- dependent (LIG1)	1	M36067	В, Т	+	+		+	+	
LIM and SH3 protein 1 (LASP1)	2	X82456	+	+	+	+	+	+	t
LIM domain kinase 2 (LIMK2)	2	AC002073	+	+	+			+	
line-1 protein	1					<u> </u>		L_	( )
Line-1 repeat mRNA with 2 open reading frames	1	U93566	+	+	+	+	+	+	
Line-1 repeat with 2 open reading frames	1	M22332	+	+	+	+	+	+	high in gastric tumor
TINE-1 REVERSE TRANSCRIPTASE HOMOLOG	1	P08547							
lipase A, lysosomal acid, cholesterol esterase (Wolman disease) (LIPA)	4	X76488	+	+	+	+		+	
lipase, hormone-sensitive (LIPE)	1	L11706	+	+				+	
LMP7	1	L11045							
Lon protease-like protein (LONP)	2	X74215	+	+	+	+		+	
low density lipoprotein- related protein 1 (alpha-2- macroglobulin receptor) (LRP1)	2	AF058414					+		only in liver
low density lipoprotein- related protein-associated protein 1 (alpha-2- macroglobulin receptor- associated protein 1) (LRPAP1)		M63959		+	+		+	+	

		_								_
low density lipoprotein- related protein-associated protein 1 (alpha-2- macroglobulin receptor- associated protein 1) (LRPAP1) (non-exact,	1	M63959								
75%) low-affinity Fc-gamma	1	L08107								┫
receptor IIA LPS-induced TNF-alpha	9	AF010312	+	++	+	+	+	+		ᅦ
factor (PIG7) Lst-1	1	U00921	+	+-	+	+		+		ᅥ
L-type amino acid transporter subunit LAT1	1	AF104032								٦
lung resistance-related protein (LRP)	1	X79882	+	+	+	+		+		
Lymphocyte antigen 75 (LY75)	1	AF011333	В							٦
lymphocyte antigen 9 (LY9)	2	L42621								╗
lymphocyte antigen HLA- B*4402 and HLA-B*5101	2	L42345								
lymphocyte cytosolic protein 1 (L-plastin) (LCP1)	42	J02923								
lymphocyte cytosolic protein 2 (SH2 domain- containing leukocyte protein of 76kD) (LCP2)	4	U20158		· · · · · ·	lymp	hom	a, T	activ	ated	
lymphocyte glycoprotein T1/Leu-1	2	X04391	+		+					
lymphocyte-specific protein 1 (LSP1)	16	M33552	+	+	+	+		+		
lymphocyte-specific protein tyrosine kinase (LCK)	7	M36881		+				+		
lýmphoid phosphatase LyP1	1	AF001847								
lymphoid-restricted membrane protein (LRMP)	4	U10485	+		+	+				
lymphoid-specific SP100 homolog (LYSP100-A)	1	U36500						+		
lymphoma proprotein convertase (LPC)	2	U33849	+	+	+	+		+		
LYSOSOMÀL PROTECTIVE PROTEIN PRECURSOR (CATHEPSIN A) (CARBOXYPEPTIDASE C)	1	P10619								
Tysosomal-associated membrane protein 1 (LAMP1)	1	J04182	+	+	+	+	+	+		
Lysosomal-associated membrane protein 2 (LAMP2)	1	J04183			+	+	+	+		
lysozyme (renal amyloidosis) (LYZ)	39	M19045	+	+	+	+		+		
lysyl-tRNA synthetase (KARS)	2	D32053	+	+	+	+		+		
M phase phosphoprotein 10 (U3 small nucleolar ribonucleoprotein) (MPP- 10)	1	X98494								
M1-type and M2-type pyruvate kinase	2	X56494								
m6A methyltransferase (MT-A70)	7	AF014837	+	+		+				
mab-21 (C. elegans)-like 1 (MAB21L1)	1	U38810		+	+	+		+		
MacMarcks	1	X70326	+	+	+	+	+	+		_
macrophage-associated antigen (MM130)	1	Z22968		+	+	+		+		

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MADS box transcription enhancer factor 2, polypeptide A (myocyte	1	U49020		+	+	+		+	
enhancer factor 2A) (MEF2A)								,	
MADS box transcription enhancer factor 2, polypeptide C (myocyte		L08895		+	+	+		+	
enhancer factor 2C) (MEF2C) major cytoplasmic tRNA-	···	X17516							
Val(IAC) (=M33940) major histocompatibility	· · · · · · · · · · · · · · · · · · ·	M95531							
complex class I beta chain (HLA-B)	•								
major histocompatibility complex, class I, A (HLA-A)	41	Z93949	+	+	+	+		+	high in villous adenoma
major histocompatibility complex, class I, A (HLA-A) (low match)	1	272422							
major histocompatibility complex, class I, C (HAL- C)	82	M24097	+	+	+	+	+	+	
major histocompatibility complex, class I, E (HLA-E)	77	M20022	+	+	+	+		+	
major histocompatibility complex, class II, DM BETA (HLA-DMB)	2	U15085	+	+	+	+		+	
major histocompatibility complex, class II, DP beta 1 (HLA-DPB1)	10	M57466	+	+	+	+		+	
major histocompatibility complex, class II, DR beta 1 (HLA-DRB1)	9	V00522	+	+	+	+		+	
Major histocompatibility complex, class II, Y box-binding protein I; DNA-binding protein B (YB1)	2	M24070		+	+		+	+	
malate dehydrogenase 1, NAD (soluble) (mdh1)	1	D55654	+	+	+	+	+	+	
malate dehydrogenase 1, NAD (soluble) (MDH1)	3	D55654		+	+		+	+	
malonyl-CoA decarboxylase precursor	2	AF097832							
maltase-glucoamylase (mg)	1	AF016833				+			
manic fringe (Drosophila) homolog (MFNG)	1	U94352	+	+	+	+		+	
mannose phosphate isomerase (MPI)	1	X76057		+	+	+	_	+	
mannose phosphate isomerase (mpi)	2	X76057		+	+	+	_	+	
mannose-6-phosphate receptor (cation dependent) (M6PR)	3	X56253		+	+		+	+	
mannose-P-dolichol utilitzation defect 1 (MPDU1)	1	AF038961		+	+	+		+	
mannosidase, alpha B, lysosomal (MANB)	1	U60885		+		+	+	+	
mannosyl (alpha-1,3-)- glycoprotein beta-1,2-N- acetylglucosaminyltransfer ase (MGAT1)	1	M55621	+	+	+	+	+	+	
map 4q35 repeat region	1	AF064849							
MAP kinase-interacting serine/threonine kinase 1 (MKNK1)	2	AB000409		+	+	+	+	+	
MAP/ERK kinase kinase 3 (MEKK3)	5	U78876		+					
MAP/ERK kinase kinase 5 (MEKK5)	1	D84476		+	+	<u> </u>	+		
		•							

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MAP/microtubule affinity- regulating kinase 3 (MARK3)	4	M80359		+	+			+	
Marenostrin protein	1	Y14441		$\vdash$					•
MASL1	1	AB016816		+		-			
	3	L06895		<del> </del>				+	
MAX dimerization protein (MAD)								,	
MaxiK potassium channel beta subunit	1	AF035046							
MBP-2 for MHC binding protein 2	1	X65644		+	+	+		+	
Meis (mouse) homolog 3 (MEIS3)	1	U68385		+	+	+		+	
melanoma-associated antigen p97 (melanotransferrin)	1	M12154							
membrane cofactor protein (CD46, trophoblast- lymphocyte cross-reactive antigen) (MCP)	4	X59405		+	+	+		+	
membrane component, chromosome 17, surface marker 2 (ovarian carcinoma antigen CA125) (M17S2)	4	D14696		+	+	+	+	+	
membrane metallo- endopeptidase (neutral endopeptidase, enkephalinase, CALLA, CD10) (MME)	2	J03779	В		+	+	+	+	
membrane protein, palmitoylated 1 (55kD) (MPP1)	2	M64925		+	+	+	+	+	
meningioma expressed antigen (MGEA)	1	U94780				+			
meningioma-expressed antigen 11 (MEA11)	1	U73682	+	+		+	+		
Menkes Disease (ATP7A) putative Cu++-transporting P-type ATPase	1	L06133		+					
metallothionein 2A (MT2A)	1	V00594		+	+	+	+	+	
metaxin 1 (MTX1)		U46920		+		+	<del>                                     </del>	+	
methionine		X68836	+	+	+	+	-	+	
adenosyltransferase II, alpha (MAT2A)	2			,		ľ			
methyl-CpG binding domain protein 1 (MBD1) (non-exact 59%aa)	1	Y10746							
methylene tetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase (MTHFD2)	2	X16396	+	+	+	+		+	
methylenetetranydrofolate dehydrogenase (NADP+ dependent), methenyltetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthetase (MTHFD1)	1	J04031		+	+	+	+	+	
methyltransferase, putative	2	AJ224442		<del>                                     </del>					
MHC antigen (HLA-B) (=L42024)	1	U14943		-	ļ				
MHC class 1 region	2	AF055066		+		<del>                                     </del>	-	<del> </del>	
MHC class I antigen (HLA-	1	U70863		+				-	
MHC class I antigen (HLA-		U19736		<del> </del>		-	-	-	
A33) MHC class I antigen (HLA-	1	U38975		-				_	
(C)					L	<u>L</u>	i		

		11755775							
MHC class I antigen B*5801 (HLA-B)	1	U52813							
MHC class I antigen HLA-A (HLA-A)	2	AF015930							
MHC class I antigen HLA-A	1	U36687				$\top$			
(HLA-A-2402 allele)		V43443		$\perp$		4			
MHC class I antigen HLA- A11K	2	X13112							
MHC class I antigen HLA-B (B*0801 variant) (=AF028596)		U67331							
MHC class I antigen HLA-B	1	U67330		╁╌╌╁		╅			
(B*0801 variant) (=U88254)				$\perp$		$\perp$			
MHC class I antigen HLA-B (B*48 allele)	1	AF017328	_						
MHC class I antigen HLA-B (HLA-B*1502 allele)	1	AF014770							
MHC class I antigen HLA-B (HLA-B*40MD)	1	U58643							
MHC class I antigen HLA-B (HLA-B*4103 allele)	1	AF028596							
MHC class l'antigen HLA-B	1	AF035648	<del></del>	1		$\neg$			
gene (HLA-B*4402 variant allele)									
MHC class I antigen HLA-B GN00110-B*3910	1	U52175							
MHC class I antigen HLA- Cw*04011	1	D83030							
MHC class I antigen R69772 HLA-A (A*0302)	1	U56434							
MHC class I antigen SHCHA (HLA-B*4403	1	U58469					•		
variant)		108807		1		4			
MHC class I histocompatibility antigen	1	U06697							
(HLA-B) (clone C21/14)	2	L07950	<del></del>	1		-+			
MHC class I HLA-A	1	Flp		-	_	+	_	_	
(Aw33.1) MHC class I HLA-B		U18660				+			
	1					$\dashv$			
MHC class I HLA-B (HLA- B-07ZEL aliele) (=X86704)	·	U18661				$\perp$			
MHC class I HLA-B (HLA- B-08NR allele)	1	U28759							
MHC class I HLA-B*3512	1	L76094							
MHC class I HLA-B41 variant (=U17572)	3	U17572				T			
MHC class I HLA-B44.2 chain	1	M24038							
MHC class I HLA-B51- cd3.3	1	L41086		1.		$\top$			
MHC class I HLA-C allele	2	Z33459				十			
MHC class I HLA-Cw*0304 (=M84172; M99389)	1	D64150				$\top$			
MHC class I HLA-Cw*0803	3	Z15144		1 1		十			
MHC class I HLA-Cw6	1	M28206				$\dashv$			
MHC class I HLA-J antigen	1	L56139				十			
MHC class I lymphocyte	1	M19670				+			
antigen A2 (A2.1) variant DK1						_ .			
MHC class I mic-B antigen	1	X91625				$\top$			
MHC class I polypeptide- related sequence A (MICA)	1	L14848							
MHC class I protein HLA-C heavy chain (C*0701new	1	U61274				1			
lallele) (=AF017331)									
MHC class II DNA Sequence (clone A37G7- 1C11)	1	L18885							
11(11)						- 1			•

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MHC class II DQ-alpha associated with DRw6,	1	M16995	+		+	+		+	
DQw1 protein MHC class II DQ-beta	2	M17564		+		+		+	
associated with DR2, DQw1 protein									
MHC class II HAL-DQ-	<del></del>	M33842					_		
LTR5 (DQ,w8) DNA fragment, long terminal									
repeat region					<u> </u>				
MHC class II hla-dr alpha- chain	1	J00195		1					
(=J00197;M60334;K01117 1;J00194;M60333;X00274)									
MHC class II HLA-DRB1	1	AF007883							
MHC class II HLA-DRw11- beta-I chain (DRw11.3)	1	M21966							
MHC class II lymphocyte	1	M23907							
antigen (DPw4-beta-1) MHC CLASS II		P33076	<del></del>	1	-	_			
TRANSACTIVATOR CIITA (non-exact 57%)	ř								
MHC HLA-E2.1 (=X87679)	1	M32507							
MHC HLA-E2.1 (alpha-2 domain) (low match)	1	M32507							
Mi-2 autoantigen 240 kDa	1	U08379							
protein (non-exact 84%)	1	U04735						-	
protein ATPase core (stch)		140707		+		+		+	
microtubule-associated protein 4 (MAP4)	1	U19727	+			7			
microtubule-associated protein 7 (MAP7)	1	X73882							
mineralocorticoid receptor (aldosterone receptor)	2	M16801		+		+		+	
(MLR) minichromosome	1	X62153		+	+	+		+	
maintenance deficient (S. cerevisiae) 3 (MCM31)									
minichromosome	1	AB011144		+	+	+		+	
maintenance deficient (S. cerevisiae) 3-associated protein (MCM3AP)									
minichromosome maintenance deficient (S.	2	X74795	+	+	+	+	+	+	
cerevisiae) 5 (cell division cycle 46) (MCM5)				,					
mitochondiral cytochrome b	1	AF042517							
(CYTB)	11	270759	<del></del>	<del> </del>					
mitochondnal ATP	2	X59066		<b>-</b>					
synthase (F1-ATPase)									
mitochondrial ATP	1	X69907	<del></del>	1					·
synthase c subunit (P1 form)									
mitochondrial cytochrome b (CYTB)	6	AF042508							
mitochondrial cytochrome b small subunit of complex II	1	AB006202							
mitochondrial		P00395		1					
CYTOCHROME C OXIDASE POLYPEPTIDE I									
mitochondrial CYTOCHROME C	1	. P00403							
OXIDASE POLYPEPTIDE									
mitochondrial cytochrome C oxidase subunit II	2	P00403					-	-	

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mitochondrial cytochrome	5	U12691								
oxidase subunit II (COII)						ĺ				ŀ
(=U12692 Hsa4				]		l	ı			ĺ
mitochondrion cytochrome				۱ ۱		- 1				
oxidase subunit II)		V00709		$\vdash$						
mitochondrial DNA loop	1	X89763					- 1			
attachment sequences (clone LAS34)							İ			
mitochondrial DNA	1	U94703		+						
polymerase accessory	•	004,00								1
subunit precursor (MtPolB)				1						
nuclear gene encoding								1		
mitochondrial protein,										
mitochondrial DNA,	1	X93334								
complete genome										
mitochondrial genes for	8	V00710		1 1	1					
several tRNAs (Phe, Val,										
Leu) and 12S and 16S				1 1	1					
ribosomal RNAs.		V00660								
mitochondrial genes for tRNA (Phe) and 12S rRNA	3	V00000								
(fragment)										ļ
mitochondrial inner	<del></del>	AF106622				-			**	
membrane preprotein	'		}	1						
translocase Tim17a			<u> </u>							
mitochondrial isolate Afr7	1	AF042503								
cytochrome b(CYTB)				<u> </u>						
mitochondrial loop	1	X89843			1	l	!			
attachment sequence		1				1				
(clone LAS88)	14	AF014893		<b>├</b>	<del>                                     </del>	<u> </u>	<b></b>			
mitochondrial NADH	14	AFU14093								
dehydrogenase subunit 2 (ND2)										
mitochondrial translational		L34600		+	+	+		+		
initiation factor 2 (MTIF2)	,	257000			1	ĺ				
mitochondrion cytochrome	1	U09500		<del> </del>	$\vdash$					
b	Ť		İ	1						
mitogen inducible gene	1	Z24725		+	+	+		+		
mig-Ž	ļ			<u> </u>		L				
mitogen inducible gene	1	Z24725								
mig-Ž (non-exact, 71%)				<del>  </del>	<del>↓</del>	<u> </u>		+		
mitogen-activated protein	2	U43784	1	+	+	+		*		
kinase-activated protein	1	ł		l	ľ					
kinase 3 (MAPKAPK3)	2	X80199	ļ	+	+	+	+	+		
MLN51 .				1						
MLN64 (=D38255 CAB1)	1	X80198	+	+	+	+				
moesin (MSN)	14	M69066	+	+	+	+		+		
monocytic leukaemia zinc	2	U47742		+	+	+	1	+		
finger protein (MOZ)	Ī _		1	1	<u>L</u>					
MOP1 ()	2	U29165								
motor protein (Hs.78504)	2	D21094	+	+	+	+	$\vdash$	+		
	<del>-</del>	U39736	<del></del>	1-	+-	+	-	-		
mouse double minute 2, human homolog of: p53-	'	039730	1	i	'	ľ	1			
binding protein (MDM2)			1	[	1		1	Ì		
M-phase phosphoprotein 6	1	X98263		+	+	+		+		**********
(MPP-6)	1		L	1	L_	L	<u>L_</u>	<u></u>		
M-phase phosphoprotein,	1	X98260					Ī			
mpp11				1	L		L			
MPS1	1	L20314				1	l _			
Mr 110,000 antigen	2	D64154		+		+	+	+		
MRC OX-2, V-like region	1	X05324	<del> </del>	+-	t	$\vdash$	<b></b>	<del>                                     </del>		
(=M17227)	1 '	7,00024	1	]	1			1		
mu-adaptin-related protein-	1	Y08387	<u> </u>	1	1	<b>T</b>		<u> </u>		
2; mu subunit of AP-4 (MU-	Ι .		1		1	1	l			
ARP2)	l	1			<u>L</u>	<u></u>		<u> </u>		
multifunctional polypeptide	1	X53793	+	+	+	+		+		
Isimilar to SAICAR	1		1		1	1		1	1	
synthetase and AIR	1		1		1	1	1		1	
carboxylase (ADE2H1)	<u> </u>	<u> </u>	<u> </u>	1	L		Щ.	<del></del>		

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murine leukemia viral (bmi- 1) oncogene homolog (BMI1)	1	L13689		+		+		+	
mutant (Daudi) beta2 - microglobulin	44	X07621							
mutated in colorectal cancers (MCC)	1	M62397		+	+			+	
myeloid cell leukemia sequence 1 (BCL2-related) (MCL1)	9	L08246	+	+	+	+	+	-	
myeloid cell nuclear differentiation antigeN (MNDA)	11	M81750	+					+	
myeloid differentiation primary response gene (88) (MYD88)	4	U70451		+	+	+		+	
myeloid leukemia factor 2 (MLF2)	3	U57342		+		+		+	
myeloid/lymphoid or mixed- lineage leukemia (trithorax (Drosophila) homolog); translocated to, 7 (MLLT7)	8	U89867		+	+	+		+	
MYH9 (cellular myosin heavy chain)	1	M81105							
myomesin (M-protein) 2 (165kD) (MYOM2)	1	X69089							
myosin IE (MYO1E)	11	X98411		+		+			
myosin light chain kinase (MLCK)	1	U48959	+		+	+		+	
myosin phosphatase, target subunit 1 (MYPT1)	2	D87930		+	+	+		+	
myosin regulatory light chain (=U26162)	2	D50372				·			
myosin VIIa (low match 71)	1	U55208							
myosin, heavy polypeptide 9, non-muscle (MYH9)	3	M81105	+	+	+	+		+	
myosin, light polypeptide, regulatory, non-sarcomeric (20kD) (MLCB)	6	X54304	+	+	+	+	+	+	
myosin-l beta	1	X98507	+	+	+	+		+	
mynstoylated alanine-rich protein kinase C substrate (MARCKS, 80K-L) (MACS)	1	D10522		+	+				
myxovirus (influenza) resistance 1, homolog of murine (interferon-inducible protein p78) (MX1)	1	M30817	+	+	+	+		+	
myxovirus (influenza) resistance 2, homolog of murine (MX2)	3	M30818			+				
N-acetylgalactosaminidase, alpha- (NAGA)	2	M62783		+	+		+	+	
N-acetylglucosamine receptor 1 (thyroid) (NAGR1)	1	L03532		+	+	+		+	
NACP/alpha-synuclein	2	U46896		1					
N-acylaminoacyl-peptide hydrolase (APEH)	1	D38441		+	+		+	+	
N-acylsphingosine amidohydrolase (acid ceramidase) (ASAH)	11	U47674	+	+	+	+		+	
NAD+-specific isocitrate dehydrogenase beta subunit precursor (encoding mitochondrial protein)	1	U49283	•	+	+	+	+	+	
NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 5 (13kD, B13) (NDUFA5)	1	U53468.1	+	+	+	+	+	+	

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NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5 (16kD,	1	AF047181			+	+	+	+	
SGDH) (NDUFB5)		AF050640		+	+	+	+	+	
NADH dehydrogenase (ubiquinone) Fe-S protein 2 (49kD) (NADH-coenzyme Q eductase) (NDUFS2)	1			ľ					
NADH dehydrogenase (ubiquinone) flavoprotein 2 (24kD) (NDUFV2)	1	M22538			+	+	+	+	
NADH:ubiquinone dehydrogenase 51 kDa subunit (NDUFV1)	2	AF053070	+	+	+	+	+	+	
NADH-CYTOCHROME B5 REDUCTASE (B5R) (50%aa)	1	P00387							
NADH-UBIQUINONE OXIDOREDUCTASE CHAIN 1	1	P03886							
Nardilysin (N-arginine dibasic convertase) (NRD1)	2	U64898	+	+	+	+		+	
nascent-polypeptide- associated complex alpha polypeptide (NACA)	5	X80909		+	+		+	+	
natural killer cell group 7 sequence (NKG7)	19	S69115 M32011	+			+		+	
natural killer cell transcript 4 (NK4)	19	W32011	+						blood only
natural killer-associated transcript 3 (NKAT3)	<u> </u>	AF022045	<u> </u>			_		_	blood only
natural killer-associated transcript 5 (NKAT5)	'	AF022043	,					1	
natural killer-tumor recognition sequence (NKTR)	1	L04288	В		+		+	+	
N-deacetylase/N- sulfotransferase (heparan glucosaminyl) 2 (NDST2)	2	AF042084	+	+		+		+	
Ndr protein kinase	3	Z35102		+					
Nedd-4-like ubiquitin- protein ligase WWP1	1	U96113							
nel (chicken)-like 2 (NELL2)	3	D83018		+	+				
N-ethylmaleimide-sensitive factor attachment protein, alpha (NAPA)	1	U39412		+			+		
N-ethylmaleimide-sensitive factor attachment protein, gamma (NAPG)	1	U78107		+	+	+			
neural precursor cell expressed, developmentally down- regulated 5 (NEDD5)	3	X92544	+	+	+	+		+	high in testis
neural precursor cell expressed, developmentally down- regulated 8 (NEDD8)		D23662	+	+	+	+	+	+	
neuregulin 1 (NRG1)	1	U02330		+		+	+		
neuroblastoma RAS viral (v-ras) oncogene homolog (NRAS)	4	AB020692	+	+	+	+		*	
Neuroblastoma RAS viral (v-ras) oncogene homolog (NRAS) (low match)	1	X68286							
Neurofibromin 2 (bilateral acoustic neuroma) (NF2)	1	S73853		+				+	
neuronal apoptosis inhibitory protein (NAIP)	2	U19251	+	+	+			+	
neuronal cell adhesion molecule (NRCAM)	1	AB002341		+	+	+	<u></u>	+	

neuropathy target esterase (NTE)	1	AJ004832		+	+	+		+	
neuropeptide Y3 receptor, 5'UTR (low score)	7	D28433							
neurotrophic tyrosine	14	X03541	+	+	+	+	+	+	
kinase, receptor, type 1 (NTRK1)									
neutrophil cytosolic factor 4 (40kD)	2	U50720							
NG31	1	AF129756							
NGAL (=X83006)	1	X99133							
nibrin (NBS)	1	AF051334							
NIK	7	AB014587		+ 1	+	+		+	
Ninjurin 1; nerve injury-	1	U72661		+	+	+		+	
induced protein-1 nitrilase 1 (NIT1)		AF069987		+			_		
(=AF069984)	·								
NKG2-D (low match) (non- exact, 58%)	1	X54870							
Nmi	1	U32849							
N-myristoyltransferase 1	1	AF043324		+	+	+	+	+	
(NMT1) No arches-like (zebrafish)		U79569		+	+	+	<b> </b>	+	
zinc finger protein (NAR)							<u> </u>		
non-histone chromosome protein 2 (S. cerevisiae)-	1	D50420	+	+	+	+	+	+	
like 1 (NHP2L1)				J				_	
non-muscle (fibroblast)	1								1
tropomyosin non-muscle alpha-actinin	<del>- 1</del>	U48734		+ -				_	
1				1	+	+	+	+	High in fetal adrenal
non-muscle myosin alkali light chain (Hs.77385)	3	M22918	+	+	*	_		<b>T</b>	gland and BPH stroma
non-neuronal enolase (EC 4.2.1.11)	1	X16289				Ĺ			
non-receptor tyrosine phosphatase 1	1	M33689							
normal keratinocyte	3	X53778	+	+	+	+	+	+	high in many libraries
substraction library mRNA, clone H22a	_								
notch group protein (N)	3	M99437							
novel protein	1	X99961				<del>                                     </del>			
novel T-cell activation	1	X94232		+	+	+		+	
protein N-ras protein NRU		A60196							
N-sulfoglucosamine	<u> </u>	U60111		+		├	├	+	
sulfohydrolase (sulfamidase) (SGSH)	•	000111		'					
Insulin induced gene 1 (INSIG1)	1	U96876	+	+	+	+	+	+	
ntegrin, alpha 4 (antigen CD49D, alpha 4 subunit of	3	L12002	+	1		+			
VLA-4 receptor) (ITGA14)	-	M63838	+	+	+	+		+	
nterferon, gamma-inducible protein 16 (IFI16)			т			Ľ		Ŀ	
nterleukin 1, beta (IL1RB)	1	M15330				1			
nuclear antigen H731-like protein	2	U83908		+	+	+		+	
nuclear antigen Sp100 (SP100)	4	U36501	+			+	+	+	
Nuclear antigen Sp100 (SP100) (85%aa)	1	P23497		1					
Nuclear antigen Sp100	1	P23497		_					
(SP100) (89%aa)		M97856	+		+	$\vdash$	-	┼	
sperm protein (histone- binding) (NASP)	'	M197 000			,				

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nuclear corepressor KAP-1 (KAP-1) (=U95040; X97548 TIF1beta zinc finger	1	U78773							
protein)				ł					
Nuclear domain 10 protein (NDP52)	4	U22897	+	+	+	+	+	+	
Nuclear factor (erythroid- derived 2)-like 2 (NFE2L2)	1.	S74017		+	+	+	+	+	
Nuclear factor of kappa light polypeptide gene	2	M58603		+	+		+	+	
enhancer in 8-cells 1 (p105) (NFKB1)						+		+	
nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha (NFKBIA)	3	M69043		+	+	,		*	
nuclear factor related to kappa B binding protein (NFRKB)	1	U08191		+	+	+		+	
nuclear mitotic apparatus protein 1 (NUMA1)	3	Z11583	+	+	+	+	+	+	
nuclear receptor coactivator 2 (GRIP1)	1	X97674							
nuclear receptor coactivator 3 (AIB3)	2	AF010227	+	+	+			+	
nuclear receptor coactivator 4 (ELE1)	22	X77548		+	+	+	+	+	
nuclear receptor interacting protein 1 (NRIP1)	1	X84373		+		+		+	
nuclear respiratory factor 1 (NRF1)	1	U02683	В	+	+	_		-	
nuclear RNA helicase, DECD variant of DEAD box family (DDXL)	4	U90426	+	+	+	+			
nuclear transcription factor Y, alpha (NFYA)	1	X59711	В						
nuclear transcription factor, X-box binding 1 (NFX1)	3	U15306		+	+	+	+	+	
nuclear transport factor 2 (placental protein 15) (PP15)	1	X07315	+		<b>T</b>	Ť			
nucleobindin (=M96824)	1	U31336		1					
nucleobindin 1 (NUCB1)	2	M96824	+	+	+	+		+	
nucleolar phosphoprotein p130 (P130)	1	Z34289		+	+				
nucleolar protein (KKE/D repeat) (NOP56)	1	Y12065	+	+	+	+		+	
nucleolar protein (MSP58)	1	AF015308							
nucleolar protein 1 (120kD) (NOL1)	1	M32110	+	+					
nucleolar protein p40	1	U86602	+	+	+	+		+	
nucleolin (NCL)	2	M60858	+	+	+	+		+	
nucleophosmin (nucleolar phosphoprotein B23, numatrin) (NPM1)	14	M28699	+	+	+	+		+	
nucleophosmin-retinoic acid receptor alpha fusion protein NPM-RAR long form	1	U41742							
nucleoporin (NUP358) (=D42063 RanBP2 (Ran- binding protein 2))	2	L41840							
nucleoponn 153kD (NUP153)	1	Z25535							
nucleoponn 98kD (NUP98)	1	U41815							
nucleosome assembly protein	1	D28430							
nucleosome assembly protein 1-like 1 (NAP1L1)	1	M86667		+	+	+		+	
nucleosome assembly protein 1-like 4 (NAP1L4)	2	U77456	+	+	+	+		+	

nucleosome assembly	1	D28430					1		
protein, 5'UTR olfactory receptor (OR7-		U86281		+				-	
141)									
OLFACTORY RECEPTOR-	1	P34982		1 1					
LIKE PROTEIN HGMP07E (OR17-4) (non-exact 65%)		ĺ		1 1	- {				
oligodendrocyte myelin	7	L05367		+					
glycoprotein (OMG)		U77413		++			+	+	
O-linked N- acetylglucosamine	1	0//413	•					•	
(GlcNAc) transferase							1		
(UDP-N- acetylglucosamine:polypep							1		
tide-N-acetylglucosaminyl				1 1					
transferase) (OGT)				<del>                                     </del>					
oncofetal trophoblast glycoprotein 5T4 precursor	1	A53531							
(non-exact 55%)									
Oncogene TIM (TIM) (non-	1	U02082							
exact 84%) ORF (Hs.77868)		M68864	+	╀╌┼┤	+	+	+	+	
ORF1; MER37; putative	1	U49973		+ -					
transposase similar to pogo	•								
element Length =									
origin recognition complex,	2	U27459		+		+			
subunit 2 (yeast homolog)-	-	]							
like (ORC2L)	1	AF022108		-		$\vdash$		-	
origin recognition complex, subunit 4 (yeast homolog)-	1	AFU22100		1		•			
like (ORC4L) (low match)								_	
ornithine aminotransferase	2	M23204		+	+	+			•
(gyrate atrophy) (OAT) ornithine decarboxylase	1	M20372		+				╫	
(ODC)				1		<u> </u>		<u> </u>	lich in paperage
ornithine decarboxylase	11	D78361	+	+	+	+	+	+	High in pancreas, and activated T cells
antizyme, ORF 1 and ORF					_				
orphan receptor	2	U07132	+	+	+	+		+	
orphan receptor (Hs.100221)			+	+	+	+	+	+	
2 orphan receptor (Hs.100221) OS-9 precurosor	6	AB002806					+		
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-					+	+	+	+	
2 orphan receptor (Hs. 100221) OS-9 precurosor osteonectin (=X82259 BM- 40) ovel centrosomal protein	6	AB002806					+		
2 orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM- 40) ovel centrosomal protein RanBPM (RANBPM)	6	AB002806 D28381 AB008515		+	+	+	+	+	
2 orphan receptor (Hs. 100221) OS-9 precurosor osteonectin (=X82259 BM- 40) ovel centrosomal protein	6	AB002806 D28381		+	+	+		+	
2 orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1,	6	AB002806 D28381 AB008515		+	+	+	+	+	
2 orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1)	6 1 1	AB002806 D28381 AB008515 L34839 U09550		+	+	+		+	
2 orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM- 40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c)	6 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695		+	+ + + + +	+ +	+	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxodutarate	6 1 1	AB002806 D28381 AB008515 L34839 U09550		+	+	+ +	+	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide)	6 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695		+ +	+ + + + +	+ +	+	+	
2 orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein	6 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695		+ +	+ + + + +	+ +	+	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP)	6 1 1 1 1 1 4	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF	6 1 1 1 1 4 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394	+	+ + +	+ + + + +	+ +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF OZF (non-exact zinc finger)	6 1 1 1 1 4	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated	6 1 1 1 1 4 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1)	6 1 1 1 1 1 1 2	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394 U51120	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviducial glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1) P35-related protein (=	6 1 1 1 1 4	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs. 100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1) P35-related protein (= S80990 ficolin)	6 1 1 1 1 1 1 1 1 2 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394 U51120 D63392	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1) P35-related protein (= S80990 ficolin) p40	6 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394 U51120 D63392 U93569	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviducial glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1) P35-related protein (= S80990 ficolin) p40 p40phox (=U50720)	6 1 1 1 1 1 2 1 1 1 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394 U51120 D63392 U93569 X77094	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1) P35-related protein (= S80990 ficolin) p40 p40phox (=U50720) P47 LBC oncogene	6 1 1 1 1 4 1 1 1 2	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394 U51120 D63392 U93569 X77094 U03634	+	+ + + + + +	+ + + + + +	+ + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviducial glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1) P35-related protein (= S80990 ficolin) p40 p40phox (=U50720)	6 1 1 1 1 1 2 1 1 1 1 1 1	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394 U51120 D63392 U93569 X77094 U03634 AF010315	+	+ + + + + +	+ + + + +	+ + + +	+ +	+	
orphan receptor (Hs.100221) OS-9 precurosor osteonectin (=X82259 BM-40) ovel centrosomal protein RanBPM (RANBPM) over-expressed breast tumor protein oviductal glycoprotein 1, 120kD (OVGP1) oxidase (cytochrome c) assembly 1-like (OXAIL) oxoglutarate dehydrogenase (lipoamide) (OGDH) oxysterol binding protein (OSBP) OZF (non-exact zinc finger) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20- related) (PAK1) P35-related protein (= S80990 ficolin) p40 p40phox (=U50720) P47 LBC oncogene p53-induced protein	6 1 1 1 1 4 1 1 1 2	AB002806 D28381 AB008515 L34839 U09550 X80695 D10523 M86917 X70394 X70394 U51120 D63392 U93569 X77094 U03634	+	+ + + + + +	+ + + + +	+ + + +	+ +	+	

		VPRPRI							
p62 nucleoporin	1	X58521		$oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{ol}}}}}}}}}}}}}}}}}}$					
p63 mRNA for	1	X69910	+	+	+	+		+	
transmembrane protein PAC clone DJ0701016		Q07108		+-		-			
from 7g33-g36 (non-exact	- 1	407100							
54%)						<u></u>			
palmitoyl-protein	10	U44772		+	+	+		+	
thioesterase (ceroid-							l		
lipofuscinosis, neuronal 1, infantile: Haltia-Santavuori		1					I		
disease) (PPT)					L		L		
papillary renal cell	1	X99720	+	+	+	+	+	+	
carcinoma (translocation-		1				1			
associated) (PRCC) PAR protein	-1	AF115850		+	-	+	<del>                                     </del>	$\vdash$	
partial EST (clone c-1gh04)	<del>i</del>	Z43627		+	<del>                                     </del>	1		$\vdash$	
PAX3/forkhead	<del></del> i	U02368			<b>-</b>	├			
transcription factor gene	ı	002300				1		ŀ	
fusion						<u></u>			
paxillin (PXN)	4	D86862		+	+	+		+	
PBK1 protein	2	AJ007398	+	+	+	+		+	
PBS-EST (nz92e01.s1	1	AA732534		1		1			
NCI_CGAP_GCB1 clone						ł			
IMAGE:1302936) (low score)					ļ			1	İ
PDZ domain protein	1	AJ224747	+	+		+		+	
(Drosophila inaD-like)	·						1		
(INALD)		700400		<b>_</b>		<b> </b>	<u> </u>	<u> </u>	
PEBP2aC Runt domain	1	Z38108				1			
encoding gene (=Z35728) peptidase D (PEPD)	1	J04605		+	$\vdash$	-	╁		_
peptidylprolyl isomerase A	3	Y00052	<del></del>	+-	+	+	+	+	high in many libraries
(cyclophilin A) (PPIA)		.00002				L	L	L	3,
peptidylprolyl isomerase D	2	L11667	1	+	+		+	+	
(cyclophilin D) (PPID)		ACA49900		<del></del>	+	<del> </del>	+	+	· · ·
peptidylprolyl isomerase E (cyclophilin E) (PPIE)	1	AF042386					-	-	ļ .
PERB11.1 (=U56942 MHC	1	U69630		+-	<del>                                     </del>	<del> </del>	<del> </del>		<del></del>
class I chain-related protein	•							ł	
(A)		Unidada		<u> </u>	-		ļ	<u> </u>	
perforin 1 (preforming protein) (PRF1)	14	M28393			1		1		
peroxisomal acyl-CoA		X86032		+		1	$\vdash$		
thioesterase (PTE1)						<u></u>			:
Peroxisomal acyl-	1	X71440		+	+	+	+	+	
coenzyme A oxidase		X75535		+	+	+	+	+	
peroxisomal farnesylated protein (PXF)	'	773333			`	`	1		
phorbol-12-myristate-13-	1	D90070	B, W	+					
acetate-induced protein								1	
(PMAIP1)	1	X77337		+	<del> </del>		├		<del> </del>
phosphate carrier (mitochondrial gene?)	1	^1/33/							
Phosphate carrier.	3	X60036	+	+	+	+	T	+	<del></del>
mitochondrial (PHC)	_			ļ			ļ		
phosphate	1	L28957	T		+		+		
cytidylyltransferase 1, choline, alpha isoform								l	
(PCYT1A)				1.	L			L	
PHOSPHATIDATE	1	Q92903		1			[		
CYTIDYLYLTRANSFERAS							1		1
E (CDP-DIGLYCERIDE) phosphatidylinositol 3-	2	U57843		+		┼	-		
kinase delta catalytic	4	007043			1		1	1	
subunit							<u></u>		
phosphatidylinositol 4-	3	AB005910	+	+	+	+		+	
kinase, catalytic, beta						1	]		
polypeptide (PIK4CB) phosphatidylinositol glycan,	1	L19783		+	+	+	+	+	<del> </del>
idass H (PIGH)	•	1			<u></u>	1_		L_	

WO 00/40749									, 1/CA		.005	
phosphatidylinositol transfer protein (PI-TPbeta)	2	D30037			•							
phosphatidylinositol transfer protein, membrane-associated	2	X98654	B, T lymphoma	+								
(PITPNM) phosphatidylinositol transfer protein,	1	X98654										$\dashv$
membrane-associated (PITPNM) (non-exact 64%)	!											
phosphatidylinositol-4- phosphate 5-kinase, type II, alpha (PIP5K2A)	1	U14957			+		+					
phosphatidylinositol-4- phosphate 5-kinase, type II, beta (PIP5K2B)	1	U85245		+	+	+		+				
phosphodiesterase 7A (PDE7A)	1	L12052	B, W	+	+		+					
phosphodiesterase IB (PDES1B)	1	U56976		ON								
phosphoglucomutase 1 (PGM1)	1	M83088		+	+	+		+				_
phosphogluconate dehydrogenase (PGD) phosphoglycerate kinase 1	12	V00572	_									
(PGK1) phosphoglycerate mutase	3	J04173	+	+	+	+	+	+				
1 (brain) (PGAM1)	1	M55673		+	+	-		+				$\dashv$
2 (muscle) (PGAM2) phosphoinositide-3-kinase, catalytic, alpha polypeptide	1	Z29090		+	+	+				-		
(PIK3CA) phosphoinositide-3-kinase, catalytic, delta polypeptide	4	U86453		+	+	+		+				$\dashv$
(PIK3CD) phosphoinositide-3-kinase, catalytic, gamma	1	X83368										
polypeptide (PIK3CG) phospholipase C	1	X14034	<del> </del>		<del>                                     </del>		<del>                                     </del>	<del> </del>		-		$\dashv$
phospholipase C, delta 1 (PLCD1)	2	U09117		+	+	+		+				
phospholipase C, gamma 1 (formerly subtype 148) (PLCG1)	1	M34667	+ :	+	+	+		+				
phospholipid scramblase	1	AF008445										_
phosphoribosyl pyrophosphate synthetase- associated protein 1 (PRPSAP1)	1 .	D61391		+	+			+				
phosphoribosylglycinamide formyltransferase, phosphoribosylglycinamide synthetase, phosphoribosylaminoimida zole synthetase (GART)	3	X54199		+	+	+	+	+				
phosphorylase kinase, alpha 2 (liver), glycogen storage disease IX (PHKA2)	3	D38616		+	+	+	+	+				
phosphorylase, glycogen; brain (PYGB)	1	U47025	+	+	+		·	+				
phosphorylase, glycogen; brain (PYGB) (low match, non-exact, 75%)	1	U47025										
phosphorylase, glycogen; liver (Hers disease, lycogen storage disease type VI) (PYGL)	1	Y15233		+	+	+		+				
phosphorylation regulatory protein HP-10	2											
phosphotidylinositol transfer protein (PITPN)	1	D30036	+	+	+	+		+				
			75									

pigment epithelium-derived factor (PEDF)	1	U29953	+	+	+	+	+	+	
pim-1 oncogene (PIM1)	1	M24779	+	+	+			+	
pinin, desmosome associated protein (PNN)	1	U77718		В,	mon	ocyte	e, T1	ymp	noma
placenta (Diff33)	5	U49188		+	+	+		+	
placenta (Diff33) (non- exact, 69%)	1	U49188							
placenta (Diff48)	18	U49187	+				-		
placenta (Diff48) (low match)	1	U49187	<del></del>						
placenta(Diff48) (low match)	1	U49187							
plasminogen activator, urokinase receptor (PLAUR)	1	X74039		+		+		+	
platelet factor 4 (PF4)	1	M25897		<del>                                     </del>	+			+	
platelet/endothetial cell adhesion molecule (CD31 ntigen) (PECAM1)	8	M37780	-	+	+	+	+	+	
platelet-activating factor acetylhydrolase 2 (40kD) (PAFAH2)	4	U89386		+	+	+			
platelet-activating factor acetylhydrolase, isoform lb, alpha subunit (45kD) (PAFAH1B1)	1	U72342	+	+	+	+	+	+	
platelet-activating factor receptor (PTAFR)	1	D10202		+				+	
pleckstrin (PLEK)	10	X07743			+	+		+	
pleckstrin (PLEK) (low match)	1	X07743							
pleckstrin homology, Sec7 and coiled/coil domains 1(cytohesin 1) (PSCD1)	4	M85169	+	+		+		+	
pleckstrin homology, Sec7 and coiled/coil domains, binding protein (PSCDBP)	4	L06633	+			+			
pM5 protein	1 1	X57398	+	+	+	+		+	
РМР69	2	Y14322							
poly (ADP-ribose) polymerase (NAD (+) ADP- ribosyltransferase) (=X16674)		X56140							
poly(A) polymerase (PAP)	1	X76770	+	+	+	+		+	
poly(A)-binding protein-like 1 (PABPL1)	19	Y00345	+	+	+	+	+	+	
poly(rC)-binding protein 1 (PCBP1)	3	X78137	+	+	+	+	+	+	
polyadenylate binding protein	1	U75686	- <del>'</del>						
polycystic kidney disease 1 (autosomal dominant) (PKD1)	5	U24498							
polymerase (DNA directed), beta (POLB)	1	D29013		+			+	+	
polymerase (DNA directed), gamma (POLG)	6	D84103	·						
polymerase (RNA) II (DNA directed) polypeptide A (220kD) (POLR2A)	1	X63564	+	+	+	+	+	+	
polymyositis/scleroderma autoantigen 2 (100kD) (PMSCL2)	1	L01457	+	+	+	+	+	+	
polypyrimidine tract binding protein (heterogeneous nuclear ribonucleoprotein I) (PTB)	1	X65372	+	+	+	+	+	+	

WO 00/40/49									
positive regulator of programmed cell death ICH-1L (Ich-1)	3	U13021			+				
postmeiotic segregation increased 2-like 12 (PMS2L12)	1	M16514	+	+	+	+		+	
postmeiotic segregation increased 2-like 8 (PMS2L8)	1	U38964	+	+	+	+		+	
potassium inwardly- rectifying channel, subfamily J, member 15 (KCNJ15)	1	D87291				+		+	
potassium voltage-gated channel, KQT-like subfamily, member 1 (KCNQ1)	1	AF051426		+	+	+		+	
POU domain, class 2, associating factor 1 (POU2AF1)	1	249194				+			
POU domain, class 2, transcription factor 1 (POU2F1)	2	X13403		+		+			
PPAR binding protein (PPARBP)	1	Y13467	+	+	+	+		+	
PPAR gamma2	1	D83233				$oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{ol}}}}}}}}}}}}}}}}}$			
pre-8-cell colony- enhancing factor (PBEF)	8	U02020							
prefoldin 1 (PFDN1)	1	Y17392	+	+	+	+	+	+	
prefoldin 5 (PRFLD5)	3	D89667	В	+	+		+		
prefoldin subunit 3 (=U96759 von Hippel- Lindau binding protein (VBP-1))	1	Y17394							
pregnancy-associated plasma protein A (PAPPA)	1	U28727		+		+			high in placenta
pre-mRNA splicing factor SF3a (60kD), similar to S. cerevisiae PRP9 (spliceosome-associated protein 61) (SF3A60)	1	U08815	+	+	+	+		+	
pre-mRNA splicing factor SF3a (60kD), similar to S. cerevisiae PRP9 (spliceosome-associated protein 61) (SF3A60) (low score)	<del>1</del>	U08815							
pre-mRNA splicing factor SRp20, 5'UTR	2	D28423							
preprotein translocase (TIM17)	3	X97544	+	+	+	+		+	
prion protein	1	X82545							
prion protein (p27-30) (Creutzfeld-Jakob disease, Gerstmann-Strausler- Scheinker syndrome, fatal familial insomnia) (PRNP)		M13899		+	+	+		+	
pristanoyl-CoA oxidase (low match)	1	Y11411							
pristanoyl-CoA oxidase (low score)	1	Y11411							
procollagen-lysine, 2- oxoglutarate 5- dioxygenase (lysine hydroxylase, Ehlers-Danlos syndrome type VI) (PLOD)	1	M98252		+	+	+		+	
procollagen-proline, 2- oxoglutarate 4- dioxygenase (proline 4- hydroxylase), alpha polypeptide 1 (P4HA1)	1	M24486	+	+	+	+	+	+	

WO 00/40749								FC.	I/CA00/00005
procollagen-proline, 2- oxoglutarate 4- dioxygenase (proline 4- hydroxylase), beta polypeptide (protein disulfide isomerase; thyroid hormone binding protein p55) (P4HB)	4	X05130 J03191	+	+	+	+	+	+	
profilin 1 (PFN1)			•		<u> </u>	_	Ľ.		
progesterone receptor- associated p48 protein (P48)	2	U28918		+					
prohibitin (PHB)		S85655		+	+	+	+	+	
proliferating cell nuclear antigen (PCNA)	3	J04718	+	+	+	+		+	
proliferation-associated gene A (natural iller- enhancing factor A) (PAGA)	4	L19184	•	+	+	+	+	*	
proline-rich protein BstNI subfamily 2 (PRB2) (non- exact, 43%aa)		S62936				<u></u>			
proline-senne-threonine phosphatase interacting protein 1 (PSTPIP1)	1	U94778 X74496		+		_		+	
prolyl endopeptidase (PREP)	2	A/4490		T		1		*	
prolylcarboxypeptidase (angiotensinase C) (PRCP)	5	L13977		+	+	+	+	+	
promyelocytic leukemia (PML)	1	M80185	+	+	+	+			
properdin P factor, complement (PFC)	4	X57748	+			İ			
pro-platelet basic protein (includes platelet basic protein, beta-thromboglobulin, connective tissue-activating peptide III, neutrophil-activating peptide-2) (PPBP)	1	M54995			+	+		+	
pro-platelet basic protein (includes platelet basic protein, beta-thromboglobulin, connective tissue-activating peptide III, neutrophil-activating peptide-2) (PPBP)	7	M54995	+		+		+		
proprotein convertase subtilisin/kexin type 7 (PCSK7)	4	U40623							
prosaposin (variant Gaucher disease and variant metachromatic leukodystrophy) (PSAP)	89	D00422	+	+	+	+	+	+	
prostaglandin- endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase) (PTGS1)	1	U63846	В	+			+	+	
prostaglandin- endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase) (PTGS2)	2	L15326							
prostaglandin- endoperoxide synthase-1 (=L08404; U84208) (all promoters)	1	D64068							
prostate carcinoma tumor antigen (pcta-1)	2	L78132							

WO 00/40749								rc	1/CA00/00003
protease inhibitor 1 (anti- elastase), alpha-1-	17	K02212		+	+	+	+	+	high in many libraries
antitrypsin (PI) protease inhibitor 2 (anti- elastase),	1	M93056				+		+	
monocyte/neutrophil (ELANH2) (low match) proteasome (prosome,	3	L02426	В	+	+			+	
macropain) 26S subunit, ATPase, 1 (PSMC1)		M34079	<del>-</del>		+	+		+	
proteasome (prosome, macropain) 26S subunit, ATPase, 3 (PSMC3)	·		, 						
proteasome (prosome, macropain) 26S subunit, ATPase, 4 (PSMC4)	2	AF020736							
proteasome (prosome, macropain) 26S subunit, ATPase, 5 (PSMC5)	5	L38810	+	+	+	+	+	+	
proteasome (prosome, macropain) 26S subunit, ATPase, 6 (PMSC6)	2	D78275	+	+	+	+		+	
proteasome (prosome, macropain) 26S subunit, non-ATPase, 11 (PSMD11)	7	AF001212	T	+			+		
proteasome (prosome, macropain) 26S subunit, non-ATPase, 2 (PSMD2)	2	D78151		+	+			+	
proteasome (prosome, macropain) 26S subunit, non-ATPase, 5 (PSMD5)	1	S79862	T	+	+		+		
proteasome (prosome, macropain) 26S subunit, non-ATPase, 7 (Mov34 homolog) (PMSD7)	1	D50063		+	+	+		+	high in many libraries
proteasome (prosome, macropain) 26S subunit, on-ATPase, 12 (PMSD12)	1	AB003103		+	+	+		+	
proteasome (prosome, macropain) activator subunit 1 (PA28 alpha) (PSME1)	3	L07633	+	+	+	+		+	
proteasome (prosome, macropain) subunit, alpha type, 3 (PSMA3)	2	D00762		+	+	+		+	<i>.</i> :
proteasome (prosome, macropain) subunit, alpha type, 5 (PSMA5)	3	X61970	+	+	+	+		+	·
proteasome (prosome, macropain) subunit, alpha type, 7 (PSMA7)	3	AF054185		+	+	+	+	+	
proteasome (prosome, macropain) subunit, alpha type, 7 (PSMA7) (low match)	1	AF022815							
proteasome (prosome, macropain) subunit, beta type, 1 (PSMB1)	1	D00761	+	+	+	+	+	+	
proteasome (prosome, macropain) subunit, beta type, 10 (PSMB10)	1	X71874	+	+		+	+	+	
proteasome (prosome, macropain) subunit, beta type, 6 (PMSB6)	1	D29012		+	+	+		+	
proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional protease 7) (PSMB8)	1	U17497	+	+	+	+		+	
proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional protease 2) (PSMB9)	3	Z14977	+			+		+	
<del></del>			<u> </u>						

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proteasome (prosome, macropain) subunit, beta ype, 7 (PSMB7)	1	D38048	+	+	+	+	+	+	
protective protein for beta- galactosidase (galactosialidosis) (PPGB)	3	M22960	+	+	+	+	+	+	
protein A alternatively spliced form 2 (A-2)	1	U47925		+					
protein activator of the interferon-induced protein kinase (PACT)	1	AF072860		+	+	+		+	high in testis
protein disulfide isomerase- related protein (P5)	2	D49489	+	+	+	+	+	+	
protein geranylgeranyltransferase type I, beta subunit (PGGT1B)	1	L25441	+	+	+				
protein homologous to chicken B complex protein, guanine nucleotide binding (H12.3)	20	M24194	+	+	+	+	+	+	high in many libraries
protein kinase A anchoring protein	1	AF037439		+					
protein kinase C substrate 80K-H (PRKCSH)	2	U50317	+	+	+	+		+	
protein kinase C, beta 1 (PRKCB1)	6	X06318	+	+	+		_	+	
protein kinase C, delta (PRKCD)	1	D10495	+	+	+	+		+	
protein kinase C, eta (PRKCH)	1	M55284			+	<u></u>		+	
protein kinase C, mu (PRKCM) (non-exact 78%)	1	X75756							
Protein kinase C-like 1 (PRKCL1)	2	D26181	+	+	+	_		+	
protein kinase, AMP- activated, gamma 1 non- catalytic subunit (PRKAG1)	1	U42412	B, T lymphoma	+	+				
protein kinase, cAMP- dependent, regulatory, type I, alpha (tissue specific extinguisher 1) (PRKAR1A)	4	M18468		+	+	+	+	+	
protein kinase, DNA- activated, catalytic polypeptide (PRKDC)	1	U47077		+	+		+	+	
protein kinase, mitogen- activated 1 (MAP kinase 1; p40, p41) (PRKM1)	1	Z11695	В	+			+		
protein kinase, mitogen- activated 6 (extracellular signal-regulated kinase, p97) (PRKM6)	1	L77964		+		+	+	+	
protein kinase, mitogen- activated, kinase 3 (MAP kinase kinase 3) (PRKMK3)	1	U66839	+	+	+	+	+		
protein phosphatase 1, catalytic subunit, alpha isoform (PPP1CA)	5	M63960	+	+	+	+	+	+	
protein phosphatase 1, regulatory subunit 10 (PPPR10)	3	Y13247		+	+	+		+	
protein phosphatase 1, regulatory subunit 7 (PPP1R7)	2	Z50749	+	+	+	+	+	+	
protein phosphatase 2 (formerly 2A), catalytic subunit, beta isoform (PPP2CB)	1	X12656	•	+	+	+	+	+	
protein phosphatase 2 (formerly 2A), regulatory subunit B" (PR 72), alpha isoform and (PR 130), beta isoform (PPP2R3)	1	L07590	80		+	+		+	

WU 00/40/49									1, 0, 100, 0000
protein phosphatase 2, regulatory subunit B (856), alpha isoform (PPP2R5A)	2	L42373	+	+	+	+		+	
protein phosphatase 2, regulatory subunit B (B56), delta isoform (PPP2R5D)	3	D78360		+	+	+		+	
protein phosphatase 2, regulatory subunit B (B56), gamma isoform (PPP2R5C)	1	D26445	+	+	+	+		+	
protein phosphatase 2A regulatory subunit alpha- isotype (alpha-PR65)	5	J02902	+	+	+	+		+	
protein phosphatase 4 (formerly X), catalytic subunit (PPP4C)	2	AF097996	+	+	+	+		+	
protein tyrosine kinase 2 beta (PTK2B)	4	L49207	, and the second	+		+		+	
protein tyrosine phosphatase epsilon	1	X54134							
protein tyrosine phosphatase type IVA, member 2 (PTP4A2)	2	L48723	+	+	+	+		+	
protein tyrosine phosphatase, non-receptor type 1 (PTPN1)	1	M31724	+	+	+	+			
protein tyrosine phosphatase, non-receptor type 12 (PTPN12)	1	M93425		+	+	+		+	high in testis
protein tyrosine phosphatase, non-receptor type 12 (PTPN12) (non- exact, 70%)		M93425							
protein tyrosine phosphatase, non-receptor type 2 (PTPN2)	2	M25393		+	+	+		+	
protein tyrosine phosphatase, non-receptor type 4 (megakaryocyte) (PTPN4)	1	M68941			+	+		+	
protein tyrosine phosphatase, non-receptor type 6 (PTPN6)	7	M74903	+	+	+	+		+	
protein tyrosine phosphatase, non-receptor type 7 (PTPN7)	1	D11327	+			+		+	
protein tyrosine phosphatase, receptor type, alpha polypeptide (PTPRA)	1	M34668	<b>+</b> 	+	+	+		+	
protein tyrosine phosphatase, receptor type, c polypeptide (PTPRC)	44	Y00638	+	+		+		+	
protein tyrosine phosphatase, receptor type, M (PTPRM)	1	X58288		+	+	+		+	
protein tyrosine phosphatase, receptor type, N polypeptide 2 (PTPRN2)	2	U81561		+		+		+	
protein with polyglutamine repeat (ERPROT213-21)	1	U94836	+	+	+	+		+	
protein-kinase, interferon- inducible double stranded RNA dependent inhibitor (PRKRI)	1	U28424		+	+	+	+	+	
protein-L-isoaspartate (D- aspartate) O- methyltransferase (PCMT1)	4	D13892		+	+				
proteoglycan 1, secretory granule (PRG1)	7	J03223		+		+		+	
prothymosin, alpha (gene sequence 28) (PTMA)	12	M14483	+	+	+	+	+	+	
			1						

prp28, U5 snRNP 100 kd protein (U5-100K)	7	AF026402	+	. +	+	+		+	
PRP4/STK/WD splicing factor (HPRP4P)	1	AF001687		+	+	+		+	
PTK7 protein tyrosine	1	U40271		+	+	+		+	
kinase 7 (PTK7) punnergic receptor P2X, ligand-gated ion channel, 4	3	AF000234		+	+	+		+	
(P2RX4)	1	Y12851	+						macrophage only
purinergic receptor P2X, ligand-gated ion channel, 7 (P2RX7)									macrophage only
puromycin-sensitive aminopeptidase (PSA)	1	Y07701		+	+			+	
putative ATP(GTP)-binding protein	2	AJ010842		+				+	
putative brain nuclearly- targeted protein (KIAA0765)	1	AB018308	+	+	+	+		+	
putative chemokine receptor; GTP-binding protein (HM74)	1	D10923	+						
putative dienoyl-CoA isomerase (ECH1)	1	AF030249							
putative G-binding protein	1	AF065393							
Putative human HLA class Il associated protein I (PHAP1)	1	U73477	В	+			+		
Putative L-type neutral amino acid transporter (KIAA0436)	1	AB007896							
putative mitochondrial space protein 32.1	1	AF050198							
PUTATIVE MUCIN CORE PROTEIN PRECURSOR 24 (MULTI-	1	Q04900							
GLYCOSYLATED CORE PROTEIN 24) (MGC-24) (MUC-24)									
putative nucleic acid binding protein	2	X76302	+	+	+	+		+	
putative outer mitochondrial membrane 34 kDa translocase Htom34	1	U58970		+	+	+		+	
putative p150 (non-exact 88%)	1	U93568							
putative translation initiation factor (SUI1)	1	L26247	+	+	+	+	+	+	High in moderately differentiated colon adenocarcinoma
putative tumor suppressor protein (123F2)	1	AF061836		+	+	+		+	
pyrroline 5-carboxylate reductase	1	M77836	+	+	+	+		+	
pyruvate dehydrogenase (lipoamide) alpha 1 (PDHA1)	1	D90084		+	+	+	+	+	
pyruvaté dehydrogenase (lipoamide) beta (PDHB)	2	J03576	+	+	+	+		+	
Pyruvate dehydrogenase complex, lipoyl-containing component X; E3-binding protein (PDX1)	3	Y13145	,	+	+				
pyruvate kinase, muscle (PKM2)	11	M23725					+		
RAB, member of RAS oncogene family-like	1	U18420		+	+	+		+	
l(RABL)							—	+	<del> </del>
(RABL) RAB1, member RAS oncogene family (RAB1)	3	M28209		+	+	+	l	+	

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RAB11B, member RAS	1	D45418		+				+		ļ
oncogene family (Rab11B)	3	U38654				+	-			٦.
RAB27A, member RAS oncogene family (RAB27A)	3	U30034		]		'	l	- 1		1
RAB5B, member RAS		X54871		+	+	+		+	<del></del>	7
oncogene family (RAB5B)	·			L1						┛
RAB6, member RAS	1	M28212		+				+		
oncogene family (RAB6)										-
RAB7, member RAS	1	X93499	+	+	+	+	j	+		ì
oncogene family (RAB7) RAB7, member RAS	2	D84488	<del></del>	+	+	+		+		┥.
loncogene family-like 1		504400		'	-		. {			-
(RAB7L1)		i		1						╝
RAB9, member RAS	1	U44103								
oncogene family (RAB9)										4
RAD50 (S. cerevisiae)	2	U63139		+	+	+				
homolog (RAD50) RAD51 (S. cerevisiae)	1 -	AF029669		+	+	+		+		$\dashv$
homolog C (RAD51C)	'	A. 025005								1
Radin blood group (RD)	2	L03411		+	+	+		+		٦
RAE1 (RNA export 1,	3	U84720	+	+	+	+		+		ヿ
S.pombe) homolog (RAE1)										
ralA-binding protein	2	L42542	+	+	+	+				
(RLIP76)								Щ		4
RAN binding protein 2-like	2	AF012086								
1 (RANBP2L1) Ran GTPase activating	3	X82260	+	+	+	+		+		$\dashv$
protein 1 (RANGAP1)	3	7.02200	,		'			•		_]
RAN, member RAS	1	M31469		1						٦
oncogene family (RAN)	1									
(low match)				<del> </del>						4
RanBP2 (Ran-binding	1	D42063		1	ł		}			ı
protein 2) (=U19248; L41840 sapiens				l	1					
nucleoporin (NUP358))		i i				1				
ransforming growth factor,	4	D50683	+	+	+	+		+		٦
beta receptor II (70-80kD)	1			1	1	1				1
(TGFBR2)	10	- Manage	+ -	+	+	+	+	+		$\dashv$
RAP1A, member of RAS oncogene family (RAP1A)	10	M22995	7	*	*	*	*	•		- 1
RAR-related orphan	1	U16997		<del>                                     </del>	<del> </del>	<del>                                     </del>	$\vdash$	+		7
receptor C (RORC)				1						┙
RAS guanyl releasing	1	Y12336	+	+						٦
protein 2 (calcium and								}		- 1
DAG-regulated)	12	X05026	<del></del>	+	+	+	+	+	high in ovary	$\dashv$
ras homolog gene family, member A (ARHA)	12	A03020	•	1	'	'	'	· ·	lugh in Oran	
ras homolog gene family,	1	X61587	+	+	+	+	$\vdash$	<del>                                     </del>		٦
member G (rho G) (ARHG)				<u> </u>	<u> </u>	<u></u>				$\Box$
ras homolog gene family,	2	Z35227	+	+	+			+		
member H (ARHH)		107777		<del> </del>	—	<del> </del>	$\vdash$			$\dashv$
ras inhibitor (RIN1)	2	M37191		+	<u> </u>			L		4
Ras-GTPase activating	2	AF053535	+	+	+	+		+		
protein SH3 domain-	Ì	1 1		1				İ		
binding protein 2 (KIAA0660)					1					
Ras-GTPase-activating	3	U32519	+	+	+	+		+		٦
protein SH3-domain-						1	1	1		-
binding protein (G3BP)	<u> </u>			<del> </del>	<u> </u>	1		ļ.,		4
ras-related C3 botulinum	11	M29871			+	1	1	+		
toxin substrate 2 (rho family, small GTP binding	1	<b>,</b>					Ì	ŀ		-
protein Rac2) (RAC2)					1		1	1		_]
RAS-RELATED PROTEIN	1	P09526		1		1	1			٦
RAP-1B (GTP-BINDING					1			1		
PROTEIN SMG P21B)		Varian		1	<del> </del>	<del> </del>	<b>↓</b>	<u> </u>		ᅱ
RBQ-1	1	X85133		+	+	+		<u> </u>		4
rearranged T cell receptor	1	L06891								-
beta variable region		,			1	1		1		
(TCRB) (=X58810) regulator of Fas-induced	<del>                                     </del>	AF057557	В	+	<del> </del>	+-	+	<del>                                     </del>		$\dashv$
apoptosis (TOSO)	'	71 007 007	_			1		1		_]
Japapiooio (1.000)			L		<del></del>	4	•			_

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regulator of G protein signalling 6 (RGS6)	1	AF073920		+						
regulator of G-protein signalling 14 (RGS14)	2	AF037195	+	+	+	+				
regulator of G-protein	6	L13391	+	+	+	+		+	 	
signalling 2, 24kD (RGS2) regulator of G-protein	1	015539				$\vdash$		-	 	
signalling 5 (RGS5) (49%	•									
regulatory factor X, 4 (influences HLA class II	1	M69297			+	+			 	
expression) (RFX4)				<u> </u>	+				 	
regulatory factor X, 5 (influences HLA class II expression (RFX5)	2	X85786	1	+	+			+		
replication protein A1 (RPA1)	1	M63488	+	+	+	+		+		
replication protein A3 (14kD) (RPA3) (low match)	1	L07493								
reproduction 8 (D8S2298E)	1	D83767		+	+	+				
requiem, apoptosis response zinc finger gene (REQ)	2	U94585	+	+	+	+		+		
requiem, apoptosis response zinc finger gene (REQ) (=AF001433) (low match)	1	U94585								
restin (Reed-Steinberg cell- expressed intermediate filament-associated protein) (RSN)	1	M97501	в, т	+	+					
retinoblastoma 1 (including osteosarcoma) (RB1)	3	L11910	+	+	+	+			 	
retinoblastoma binding protein 2 homolog 1	1	AF087481								
(RBBP2H1) retinoblastoma-binding protein 1 (RBBP1)	1	S66427	+	+						
retinoblastoma-binding	5	S66431	+	+	+	+	-	+		
retinoblastoma-binding	<del>1</del>	X71810		+	+	+	<b></b>	+		
protein 4 (RBBP4) retinoblastoma-binding	1	X74262		+	+	+		+		-
protein 4 (RBBP4) retinoblastoma-binding	1	U35143		-		<del>                                     </del>			 	
protein 7 (RBBP7)	<del>1</del>	X76061		+	+	+		+	 	
(p130) (RBL2) retinoic acid receptor	1	AF060228		+		+	+	+		
responder (tazarotene induced) 3 (RARRES3)	,									
retinoic acid receptor, alpha (RARA)	1	X06538	+	+		+				
retinoic acid responsive (NN8-4AG)	1	U50383		+		+		+		
retinoid X receptor beta (RXR-beta)	2	X66424		+	+	+		+		
REV3 (yeast homolog)-like, catalytic subunit of DNA polymerase zeta (REV3L)	1	AF035537								
Rho GDP dissociation inhibitor (GDI) beta (ARHGDIB)	23	L07916	+	+	+	+	+	+	 	
Rho GTPase activating protein 4 (ARHGAP4)	2	X78817	+	+						
Rho GTPase activating protein 4 (ARHGAP4) (low match)	1	P98171								
Rho-associated, coiled-coil containing protein kinase 2 (ROCK2)	1	AB014519								
ribonuclease 6 precursor (RNASE6PL)	2	U85625	+	+	+	+	+	+		
<u> </u>		<del></del>	· · · · · · · · · · · · · · · · · · ·						 	

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nbonuclease 6 precursor (RNASE6PL) (low match)	1	U85625							
ribonuclease, RNase A family, 2 (liver, eosinophil-	1	X55988					+		
derived neurotoxin) (RNASE2)									
ribonuclease/angiogenin inhibitor (RNH)	3	M35717	+	+	+	+		+	
ribonucleoside diphosphate reductase M1 subunit	1	X65708							
ribonucleotide reductase M2 polypeptide (non-exact 91%)	1	P31350							
ribophorin I (RPN1)	1	Y00281	+	+	+	+		+	
ribophorin II (RPN2)	1	Y00282	+	+	+	+	+	+	
ribosomal 18S rRNA	3	M10098							
ribosomal 285 RNA	1	M11167							
nbosomal phosphoprotein P0, 5'UTR (low match) Ribosomal protein	1	D28418		<u> </u>				ļ	
•	30	L25899	<del></del>	+	+	+	+	+	high in many libraries
nbosomal protein L10 (RPL10) RIBOSOMAL PROTEIN		P53025	•		Ľ.	<u> </u>	Ľ	Ŀ	git iii many iibrailes
L10A (CSA-19)	4	X79234	+	+		+	+	+	Alveolar
(RPL11) ribosomal protein L12		L06505	<del>- +</del>	+	+	+	+	+	rhabdomyosarcoma
(RPL19)		P26373	+ -	-	•	+	+	+	high in many libraries
(PRL13) nbosomal protein L14	4	D87735		+	+	+	+	+	high in many libraries
(RPL14)	<del>-</del> 4	X53777	+	ļ			<u> </u>	<u> </u>	blood only
(RPL17)	10	L11566	+	+	+	+		+	Diode only
(RPL18)	5	L05093	·	-	+	+	+		High in fetal adrenal
(RPL18A)  ribosomal protein L18a		X80821				+	<u> </u>	_	gland and skin .:
homologue nbosomal protein L19	15	X63527	+	+	+	+	+	+	
(RPL19)	6	U14967	· ·	-	+	+	+	+	
(RPL21)	3	D17652	+	ļ <u>.</u>	+	<u> </u>	<u> </u>	+	-
nbosomal protein L22 (RPL22) nbosomal protein L23	<del></del>	X55954	· +	+	+	+	+	+	high in many libraries
(RPL23)		U37230	+	ļ <u>.</u>	· +	+	+	+	high in many libraries
ribosomal protein L23a (RPL23A)			+	-	+	+		+	mgr in many ilbranes
ribosomal protein L26 (RPL26)	8	X69392		T	*	+	Ľ	+	
ribosomal protein L27 (RPL27)	6	L05094	+	1		+	+		
ribosomal protein L27a (RPL27A)	10	U14968	+	+	+		Ļ	+	
ribosomal protein L28 (RPL28)	6	U14969	+	+	+	+		+	
ribosomal protein L29 (RPL29)	6	U10248	+	+	+	+	+	+	
ribosomal protein L3 (RPL3)	81		+	+	+	+	+	+	high in many libraries
ribosomal protein L3 homologue	81	X06323							
ribosomal protein L30 (RPL30)	6	X79238	+	+	+	+	+	+	high in lymphoma
ribosomal protein L30 (RPL30) (low score)	1	X79238							
ribosomal protein L31	10	X15940	+	+	+	+	+	+	High in alveolar

nbosomal protein L32 (RPL32)	3	X03342	+	+	+	+	+	+	
nbosomal protein L33-like (RPL33L)	1	AF047440		+	+	+		+	
ribosomal protein L34 (RPL34)	5	L38941		+	+	+	+	+	
nbosomal protein L34 (RPL34) (low match)	1	L38941							
ribosomal protein L37 (RPL37)	5	D23661	+	+	+	+	+		high in barstead prostate
ribosomal protein L37a	4	X66699	+	+	+	+	+		high in many libraries
ribosomal protein L38 (PRL38)	1	Z26876	+	+	+	+	+		high in many libraries
ribosomal protein L4 (RPL4)	27	D23660	+	+	+	+	+		high in many libraries
ribosomal protein L41 (RPL41)	4	AF026844	+	+	+	+	+	+	high in many libraries
ribosomal protein L5 (RPL5)	14	U14966	+	+	+	+	+	+	High in alveolar rhabdomyosarcoma
ribosomal protein L5 (RPL5) (low match)	1	U14966							
ribosomal protein L6 (RPL6)	7	X69391	+	+	+	+	+	+	high in many libraries
ribosomal protein L7 (RPL7)	14	X52967	+	+	+	+	+	+	high in conorm
ribosomal protein L7a (RPL7A)	15	M36072	+	+	+	+	+	+	High in uterus, and seminoma
ribosomal protein L8 (RPL8)	5	Z28407	+	+	+	+	+	+	high in ovary
ribosomal protein L9 (RPL9)	10	U09953		+	+	+	+	+	
ribosomal protein S10 (RPS10)	5	U14972	+	+	+	+	+	+	high in many libraries
ribosomal protein S11 (RPS11)	4	X06617	+	+	+	+	+	+	high in many libraries
ribosomal protein S11 (RPS11) (low match)	1	AB007152							
ribosomal protein S12 (RPS12)	3	X53505	+	+	+	+	+	+	high in many libraries
ribosomal protein S13 (RPS13)	2	L01124		+	+	+	+	+	
ribosomal protein S14 (RPS14)	12	M13934	+	+	+	+	+	+	
ribosomal protein S15 (RPS15)	2	M32405	+	+	+	+	+	+	
ribosomal protein S16 (RPS16)	3	M60854	+	+	+	+	+	+	High in prostate invasive tumor
ribosomal protein S17 (RPS17)	2	M13932	+	+	+	+	+	+	high in many libraries
ribosomal protein S18	8	X69150							
ribosomal protein S19 (RPS19)	7	M81757	+	+	+	+	+	+	high in many libraries
ribosomal protein S2 (RPS2)	4	X17206	+	+	+	+	+	+	high in many libraries
RIBOSOMAL PROTEIN S2 (RPS4)	2	P15880							
ribosomal protein S20 (RPS20)	7	L06498	+	+	+	+	+	+	high in many libraries
ribosomal protein S21 (RPS21)	3	L04483	+	+	+	+	+	+	high in CD34+/CD38- hematopoietic cells and skin tumor
ribosomal protein S23 (RPS23)	3	D14530		+	+	+		+	
ribosomal protein S24 (RPS24)	7	M31520	+	+	+	+	+	+	high in uterus
ribosomal protein S25 (RPS25)	3	M64716	+	+	+	+	+	+	high in barstead prostate
ribosomal protein S26 (RPS26)	2	X69654		+	+	+	+	+	
ribosomal protein S27 ((metallopanstimulin 1) (RPS27)	5	U57847	+	+-	+	+	+	+	

ribosomal protein S28 (RPS28)	3	U58682	+	+	+	+		+	
ribosomal protein S29 (RPS29)	2	U14973	+	+	+	+	+	+	
nbosomal protein S3 (RPS3)	9	X55715	+	+	+	+	+	+	high in many libraries
ribosomal protein S3 (RPS3) (low match)	1	U14990							
ribosomal protein S3A (RPS3A)	21	Z83334		+	+	+	+	+	high in many libraries
ribosomal protein S3A (RPS3A) (low score)	1	M77234							
ribosomal protein S4, X- linked (RPS4X)	9	M58458	+	+	+	+			high in ovary and Synovial sarcoma
ribosomal protein S4, Y- linked (RPS4Y)	2	M58459	+	+	+	+	+	+	
ribosomal protein S5 (RPS5)	4	U14970	+	+	+	+	+	+	high in lymphoma
RIBOSOMAL PROTEIN S6 (PHOSPHOPROTEIN NP33)	1	P10660							
ribosomal protein S6 (RPS6)	22	M20020	+	+	+	+	+	+	
ribosomal protein S6 (RPS6) (non-exact 86%)	1	M77232							
ribosomal protein S6 kinase, 90kD, polypeptide 1 (RPS6KA1)	3	L07597	+	+	+	+		+	
ribosomal protein S6 kinase, 90kD, polypeptide 2 (RPS6KA2)	1	X85106							
ribosomal protein S7 (RPS7)	4	Z25749		+	+	+	+	+	
ribosomal protein S8 (RPS8)	6	X67247		+	+	+	+	+	
ribosomal protein S9 (RPS9)	8	U14971							colon tumor
пьоsomal protein, large, P0 (RPLP0)		M17885	T		+			+	,
ribosomal protein, large, P1 (RPLP1)	12	M17886	1	+	+		+		
ribosomal RNA 18S (=M10098; K03432) (=polyadenylating sequence)	11	X03205							
ribosomal RNA 28S	2	M11167		1					
ribosomal RNA, 16S	1	U25123		<del>                                     </del>	1		<b> </b>		
nng finger protein (non-	1	AJ001019		-		-	_		
ring finger protein 3 (RNF3)	1	AJ001019			<del>                                     </del>	├	<del>                                     </del>	$\vdash$	
ring finger protein 4 (RNF4)	3	AB000468	<del></del>	+	+	+	_	+	
ring zinc-finger protein	3	U41315		+	+	+	-	+	
(ZŇF127-Xp) RNA (quanine-7-)	1	AB007858		+	+	+	-	+	
methyltransferase (RNMT)		\			L	<u> </u>	L		
RNA binding motif protein 5 (RBM5)	4	U23946	+	+	+	+		+	
RNA binding motif, single stranded interacting protein 2 (RBMS2)	1	D28483		+		+		+	
RNA helicase (putative), (Myc-regulated DEAD box protein) (MRD8)	1	X98743	+	+	+	+		+	·
RNA helicase-related protein	1	AF083255		+	+	+		+	
RNA pol II largest subunit	2	X74872		1	1				
RNA polymerase I subunit (RPA40)	1	AF008442		+	+			+	
RTVP-1 protein	2	X91911	+	+	+	+	<del>                                     </del>	+	†
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s					<u></u>	<u> </u>	Щ.	<u> </u>	<u> </u>

VV O 00/40/42									
S100 calcium-binding protein A10 (annexin II ligand, calpactin I, light polypeptide (p11))	2	M81457			+		+	+	
(S100A10)							1	1	i
S100 calcium-binding protein A11 (calgizzarin) (S100A11)	1	X80201		+	+	+		+	
S100 calcium-binding protein A4 (calcium protein, calvasculin, metastasin, murine placental homolog)(S100A4)	3	M80563	В		+		+		
5100 calcium-binding protein A8 (calgranulin A) (S100A8)	7	M21005			+	+		+	high in bone marrow
S100 calcium-binding protein A9 (calgranulin B) (S100A9)	14	X06233			+	+			high in invasive larynx squamous cell carcinoma
S164 gene	1	AF109907		<del></del>					
S-adenosylmethionine decarboxylase 1 (AMD1)	3	M88003	+	+	+	+		+	
SB classII histocompatibility antigen alpha-chain	5	M27487	+	+	+	+		+	
SC35-interacting protein 1 (SRRP129)	5	AF030234	+	+	+	+	+	+	
scaffold attachment factor B (SAFB)	1	U72355	+	+	+	+		+	
scaffold attachment factor B (SAFB) (non-exact 78%) scRNA molecule.	1	U72355		<del> </del>		_		<u> </u>	
transcribed from Alu repeat		L13713			l				
SEC14 (S. cerevisiae)-like (SEC14L)	4	D67029		+	+	+		+	
SEC23-like protein B (SEC23B)	2	X97065	+	+	+	+		+	
SEC63 (SEC63)	1	AF100141		+	+			+	
secreted protein, acidic, cysteine-rich (osteonectin) (SPARC)	7	M25746	•	+	+	+	+	+	high in bone marrow stroma
secretory carrier membrane protein 1 (SCAMP1)	1	AF038966		*		+			
secretory carrier membrane protein 2 (SCAMP2)	1	AF005038	+	+	+	+	+	+	
secretory carrier membrane protein 3 (SCAMP3)	1	AF005039							
secretory granule proteoglycan core (clones lambda-PG[6,7,8])	1	M33649							
selectin L (lymphocyte adhesion molecule 1) (SELL)	43	X17519	+			+		+	
selectin P ligand (SELPLG)	13	U02297	+	+					
sema domain, immunoglobulin domain (lg), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4D (SEMA4D)	2	U60800		+		+		+	
Ser/Arg-related nuclear matrix protein (plenty of prolines 101-like) (SRM160)	4	AF048977		+	+	+	+	+	
serine palmitovitransferase	1	Y08685		+	+	+		+	
subunit I (SPTI)		1		1		i	ľ	l .	

WO 00/40/49			_						
serine protease	1	J02907							
serine protease inhibitor,	1	U78095	+	+	+	+		+	
Kunitz type, 2 (SPINT2)							L		
senne/threonine kinase 10	1	AB015718	+	+	+	+		+	
(STK10) serine/threonine kinase 19	<del>1</del>	L26260	+	++-	+	+		-	
(STK19)	•	120200	,	`		'			,
serine/threonine kinase 4	1	U18297		+				+	
(STK4)		1							
senne/threonine protein	1	X66358		+	+	+		+	
kinase KKIALRE (KKIALRE)		l i							
senne/threonine protein-	1	Y10256		+	+	+	<del>                                     </del>	<del> </del>	
kinase (NIK)	•								
SERINE/THREONINE-	1	P37023							
PROTEIN KINASE							1		
RECEPTOR R3 PRECURSOR (SKR3)		1				l			
serologically defined colon	2	AF039694		1			$\vdash$	<del>                                     </del>	
cancer antigen 16 (NY-CO-									
16)		<u> </u>						<u> </u>	
serologically defined colon	1	AF039698	В, Т	+	+		+		
cancer antigen 33 (SDCCAG33)									
serologically defined colon	<del></del>	AF039698		+	_	<del></del>			
cancer antigen 33	•	""		1 !			1	[ ]	
(SDCCAG33) (low score)									
serologically defined colon	1	AF039698							
cancer antigen 33 (SDCCAG33) (low score)		i l		Ì		}			
serum deprivation	<del>1</del>	AF085481.1		<del> </del>		<del>  -</del>	-	-	
response	•	1 000 10111						1	
(phosphatidylserine-binding								:	
protein) (SDPR) (=S67386)		V/18888		ــــــــــــــــــــــــــــــــــــــ		L	_		
serum/glucocorticoid	2	Y10032	+	+	+	+		+	
regulated kinase (SGK) SET domain, bifurcated 1	2	D31891	+	++	+	-	⊢	+	
(SETDB1)	-	30.00.					l		
SH2 domain protein 1A,	1	AF073019	T					+	
Duncan's disease									
lymphoproliferative									
syndrome) (SH2D1A) SH3 binding protein (SAB)	2	AB005047	+	+	+	+	$\vdash$	+	
SH3 domain protein 1B		U61167	+			+	-	+	
(SH3D1B)	~	001107	•				1	'	
SH3BGR PROTEIN (=21-	1	P55822		<del></del>				1	
GLUTAMIC ACID-RICH							1		
PROTEIN;21-GARP) (non-								-	
exact 82%aa) SH3-binding domain	1	AF042081	+	+	+	+		+	
glutamic acid-rich protein	,	7.042001	•	1	'	) '	l	l .	
like (SH3BGRL)		*							
SH3-domain GRB2-like 1	1	U65999	+	+	+	+		+	
(SH3GL1)		VC02.05		4		<u></u>		<u> </u>	
SHC (Src homology 2 domain-containing)	2	X68148		+	+	+		+	
transforming protein 1									
(SHC1)						_			
siah binding protein 1	2	U51586		+	+	+		+	
(SiahBP1)				4		<b></b>	<b> </b>	<del></del>	
siah binding protein 1	1	U51586					١.		
(SiahBP1) (non-exact, 69%)						1	1		,
Sialomucin CD164	9	D14043		1		<del>                                     </del>	1		
(CD164)	-					L			
sialophorin (gpL115,	2	J04536	-						
leukosialin, ČD43) (SNP)		1144EEA		-	+	+	<del> </del>	+	
sialyltransferase (STHM)	1	U14550				Щ.	<u> </u>		
sialyttransferase 1 (beta-	2	X17247	+	+	+	+	+	+	
galactoside alpha-2,6- sialytransferase) (SIAT1)		1				1	]		
orally transfer ase (SIATT)		<u> </u>				Ц			

sialyltransferase 4A (beta- galactosidase alpha-2,3- sialytransferase) (SIAT4A)	1	AF059321	В	+	+		+	+		
sialytansierase 8 (alpha- 2, 8-polysialytransferase) D (SIAT8D)	1	L41680		+						
signal peptidase 25kDa	1	L38950	·-···						_	
signal recognition particle 14kD (homologous Alu RNA-binding protein) (SRP14)	1	X73459	+	+	+	+	+	+		
signal recognition particle 54kD (SRP54)	1	U51920			+	+		+		
signal recognition particle 9kD (SRP9)	2	U20998		+	+	+	+	+		
signal recognition particle receptor ('docking protein') SRPR	5	X06272							_	
signal regulatory protein, beta, 1 (SIRP-BETA-1)	5	Y10376		+				+		
signal sequence receptor, alpha (translocon- associated protein alpha) (SSR1)	2	Z12830				+		+		
signal sequence receptor, beta (translocon- associated protein beta) (SSR2)	2	X74104	+	+	+	+		+		
signal transducer and activator of transcription (STAT5A)	4	L41142	+	+	+	+	+	+		
signal transducer and activator of transcription 2, 113KD (STAT2)	1	U18671						+	 	
signal transducer and activator of transcription 3 (acute-phase response factor) (STAT3)	3	129277				,				į –
signal transducer and activator of transcription 5A (STAT5A)	2	U48730	+	+	+	+	+	+		
signal transducing adaptor molecule (SH3 domain and ITAM motif) 1 (STAM)	1	U43899								- <del></del>
silencing mediator of retinoid and thyroid hormone action (SMRT)	1	U37146							 	
similar to beta-transducin superfamily proteins (SAZD)	1	U02609	+	+	+			+	 	
similar to S. cerevisiae SSM4 (TEB4)	1	AB011169		+	+	+		+	 	
similar to yeast pre-mRNA splicing factors, Prp1/Zer1 and Prp6	1	AF026031	+	+	+	+		+		
SIT protein	1	AJ010059.1								
Sjogren syndrome antigen A1 (52kD, ribonucleoprotein autoantigen SS-A/Ro)	2	M62800					+			
(SSA1) Sjogren syndrome antigen A1 (52kD,		M62800							 <del></del>	
ribonucleoprotein autoantigen SS-A/Ro) (SSA1) (non-exact 63%) (match to zinc finger)										•
SKAP55 homologue (SKAP-HOM)	1	AJ004886		+	+	+		+	_	
skb1 (S. pombe) homolog (SKB1)	2	AF015913	+	+	+	+		+		

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skeletal muscle abundant protein	1	X87613	+	+	+	+		+	
SMA3 (SMA3)	1	X83300	+	+		+		+	
small acidic protein	3	U51678	+	+	+	+		+	
small EDRK-rich factor 2 (SERF2)	2	Y10351	+	+	+	+	+	+	high in fetal lung
small inducible cytokine A5 (RANTES) (SCYA5)	2	M21121	+	+	+	+	+	+	high in many libraries
small inducible cytokine subfamily C, member 2 (SCYC2)	1	D63789							
small nuclear ribonucleoprotein	2	M15841		+	+	+		+	
polypeptide B" (SNRPB2) small nuclear ribonucleoprotein	4	J04615	+	+	+	+	+	+	
polypeptide N (SNRPN) small nuclear ribonucleoprotein	2	J04564	+	+	+	+		+	
polypeptides B and B1 (SNRPB) small nuclear RNA	1 - 1 -	AF093593	+	+	+-	+	_	+	
activating complex, polypeptide 5, 19kD (SNAPC5)	•			,	·	·			
smallest subunit of ubiquinol-cytochrome c reductase	1	D55636	+	+	. +	+	+	+	high in fetal lung
SMC (mouse) homolog, X chromosome (SMCX)	1	L25270	+	+	+	+		+	
SMT3B protein (2)	2	X99585	+	+	+	+	+	+	
SNARE protein (YKT6) (low match)	1	U95735							
SNC19	1	U20428							
SNC73 protein (SNC73)	2	J00220	+	+	!	+	+	+	high in many libraries
solute carner family 1 (neutral amino acid transporter), member 5 (SLC1A5)	2	U53347		+		+		+	
(Stellar) Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1 (SLC11A1)	7	D50403	+						
solute carrier family 17 (sodium phosphate), member 3 (SLC17A3)	1	U90545				+			
solute carrier family 19 (folate transporter).	1	U17566	B, lymphoma	+			+		
member 1 (SLC19A1) solute carrier family 2	1	K03195	+	+	+	+	+	+	
(facilitated glucose transporter), member 1 (SLC2A1)									
solute carrier family 23 (nucleobase transporters), member 2 (SLC23A2)	3	D87075		+	+	+		+	
solute carrier family 25 (mitochondrial carrier; oxoglutarate carrier),		AF070548	В, Т	+	+		+	+	
member 11 (SLC25A11) solute carrier family 31 (copper transporters), member 2 (SLC31A2)	3.	U83461		+		+	-		
solute carrier family 4, anion exchanger, member 2 (erythrocyte membrane protein band 3-like 1) (SLC4A2)	1	X62137		+	+			+	
solute carrier family 4, sodium bicarbonate cotransporter, member 8	1	AB018282		+					

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solute carrier family 7 (cationic amino acid transporter, y+ system), imember 5 (SLC7A5)	2	M80244	T, W	+	+		+		
solute camer family 7 (cationic amino acid transporter, y+ system), member 6 (SLC7A6)	3	D87432	+	+	+			+	
solute carrier family 7 (cationic amino acid transporter, y+ system), member 6 (SLC7A6) (non- lexact 77%)	1	D87432							
solute carrier family 9 (sodium/hydrogen exchanger), isoform 6 (SLC9A6)		AF030409		+	+	+		+	
somatic cytochrome c (HCS)	2	M22877							
SON DNA binding protein (SON)	2	X63753		+	+	+		+	
son of sevenless (Drosophila) homolog 1 (SOS1)	1	L13858	+	+		+			
sorcin (SRI)	1	M32886							
sortilin 1 (SORT1)	2	X98248		+		+		+	
sortilin-related receptor, L(DLR class) A repeats- containing (SORL1)	6	Y08110							
sorting nexin 1 (SNX1)	3	U53225	+	+	+	+		+	
sorting nexin 2 (SNX2)	2	AF043453							
sorting nexin 6 (SNX6) (=U83194.1 TRAF4- associated factor 2)	1	AF121856.1							
Sp3 transcription factor (SP3)	1	X68560	+	+	+	+		+	
Sp3 transcription factor (SP3)	4	M97191	+	+	+	+		+	
special AT-rich sequence binding protein 1 (binds to nuclear matrix/scaffold- associating DNA's) (SATB1)	1	M97287							
speckle-type POZ protein (SPOP)	4	AJ000644							
speckle-type POZ protein (SPOP) (non-exact)	1	AJ000644							
spectrin SH3 domain binding protein 1 (SSH3BP1)	6	U87166	+	+	+	+			
Spectrin, alpha, non- erythrocytic 1 (alpha-fodrin) (SPTAN1)	2	J05243		+	+			+	
spermidine/spermine N1- acetyltransferase (SAT)	11	M55580							
spermidine/spermine N1- acetyltransferase (SAT) (non-exact, 84%)	1	U40369							
spermine synthase (SMS)	1	AD001528	+	+	+	+		+	
SPF31 (SPF31)	1	AF083190	+	+	+	+		+	
sphingomyelin phosphodiesterase 1, acid lysosomal (acid sphingomyelinase) (SMPD1)	1	X52679		+	+		+		
SPINDLIN HOMOLOG (PROTEIN DXF34)	1	Q99865							
spinocerebellar ataxia 1 (olivopontocerebellar ataxia 1, autosomal dominant, ataxin 1) (SCA1)	3	X79204	В	+			+		

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spinocerebellar ataxia 2 (olivopontocerebellar ataxia 2, autoo (20 AO)	1	U70323	В				+		
ataxin 2) (SCA2)		AJ000517		+					
spinocerebellar ataxia 7 (olivopontocerebellar atrophy with retinal degeneration) (SCA7)	2								
spliceosome associated protein (SAP 145)	3	U41371		+	+	+	+	+	
splicing factor (CC1.3) (CC1.3)	2	L10910	+	+	+	+	+	+	
splicing factor SRp40-1 (SRp40)	7	U30826	+	+	+	+	+	+	
splicing factor, arginine/serine-rich 11 (SFRS11)	3	M74002	В	+	+		+	+	
splicing factor, arginine/serine-rich 7 (35kD) (SFRS7)	4	L41887		+	+	+		+	
Src-like adapter protein (non-exact, 76%aa)	1	U30473							
Src-like-adapter (SLA)	6	D89077		+	+	+	1	+	
Src-like-adapter (SLA) (low match)	1	D89077							
Src-like-adapter (SLA) (low score)	1	U44403							
stannin (SNN)	2	AF030196	+	+	+	+		+	
STAT induced STAT	1	AB004904				+			
inhibitor 3 (SSI-3) STE20-like kinase 3 (MST-	2	AF024636	+	+	+	+	-	+	
3)  step II splicing factor SLU7	1	AF101074		+		+	+	+	
(SLU7) Isteroid sulfatase	1	M17591				-	-		
steroid sulfatase (microsomal), arylsulfatase C, isozyme S (STS)	1	J04964		+	+	+			
sterol carrier protein 2 (SCP2)	1	M55421		+	+	+	+	+	
sterol O-acyltransferase (acyl-Coenzyme A: cholesterol acyltransferase) 1 (SOAT1)	1	AF059202					+		·
stimulated trans-acting factor (50 kDa) (STAF50)	6	X82200	+	+		+			
Striatin, calmodulin-binding protein (STRN) (low match, 71%aa)	1	U17989							-
Stromal antigen 2 (STAG2)	2	Z75331			+	+	+	+	
stromal interaction	3	U52426	+	+	+	+		+	
molecule 1 (STIM1) structure specific recognition protein 1	1	M86737		+	+	+		+	
(SSRP1) succinate dehydrogenase complex, subunit A.	5	L21936			+		_		
flavoprotein (Fp) (SDHA)	<del></del>	U17248	+			+		+	
complex, subunit B, iron sulfur (Ip) (SDHB)									
succinate dehydrogenase complex, subunit C, integral membrane protein, 15kD (SDHC)		U57877 `	+	+	+	+		+	
succinate dehydrogenase complex, subunit D, Integral membrane protein (SDHD)	3	AB006202		+	+		+		
succinate-CoA ligase, GDP-forming, beta subunit (SUCLG2)	1	AF058954		+	+	+	+	+	
			2			-			

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succinyl CoA synthetase	1	Z68204	<u> </u>						
sudD (suppressor of bimD6, Aspergillus nidulans) homolog (SUDD)	2	AF013591		+			+	+	
sulfotransferase family 1A, phenol-preferring, member 1 (SULT1A1)	1	L19999		+	-		+	+	
sulfotransferase family 1A, phenol-preferring, member 3 (SULT1A3) (non-exact 67%)	1	U37686							
superoxide dismutase 1, soluble (amyotrophic lateral sclerosis 1 (adult)) (SOD1)	4	X02317		+	+		+	+	
superoxide dismutase 2, mitochondrial (SOD2)	5	Y00985		+	+	+	+	+	
supervillin (SVIL)	2	AF051851			+	+		+	
suppression of tumorigenicity 5 (ST5)	2	U15131		+		+		+	
suppression of tumorigenicity 5 (ST5) (non-exact 82%)	[	U15779							
suppressor of K+ transport defect 1 (SKD1)	1	AF038960		<u> </u>	+	+			
suppressor of Ty (S.cerevisiae) 3 homolog (SUPT3H)		AF064804		+	+	+		+	
suppressor of Ty (S.cerevisiae) 4 homolog 1 (SUPT4H1)	2	U38817	+	+	+	+		+	
suppressor of Ty (S.cerevisiae) 5 homolog (SUPT5H)	2	U56402		+				+	
suppressor of Ty (S.cerevisiae) 6 homolog (SUPT6H)	2	U46691	+	+	+	+	+	+	
suppressor of variegation 3-9 (Drosophila) homolog 1 (SUV39H1)	1	AF019968		+	+	+			
survival of motor neuron 1, telomeric (SMN1)	1	U18423							
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 1 (SMARCA1) (non-exact, 75%)	1	M88163			+	+		+	
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2 (SMARCA2)	2	D26155		+					
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4 (SMARCA4)	1	D26156	+	+	+	+	+	+	
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily c, member 2 (SMARCC2)	4	U66616	+	+	+	+	+	+	
SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily e, member 1 (SMARCE1)	2	AF035262	B, W	+	+		+	+	
synaptobrevin-like 1 (SYBL1)	1	X95803		+	+	+		+	
synaptosomal-associated protein, 23kD (SNAP23)	2	AJ011915		+	+	+		+	
syndecan binding protein (syntenin) (SDCBP)	15	AF006636	+	+	+	+		+	

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synovial sarcoma,	2	X79201		1+								٦
translocated to X		,		1 1		1	- 1	1				-
chromosome (SSXT)		AF038897		<del>   </del>				-				$\dashv$
syntaxin 16	1	1 1		<b> </b>								4
syntaxin 3A (STX3A)	2	U32315		+		+		+				╛
syntaxin 6 (STX6)	1	AJ002078.1										j
SYNTAXIN BINDING	1	O00186										٦
PROTEIN 3 (UNC-18												1
HOMOLOG 3) (UNC-18C)				$\perp$								4
syntaxin-16C	1	AF008937										_
SYT interacting protein	7	AF080561		+	+	+		+				١
(SIP)		1400000		ļ		+		<del></del>				$\dashv$
T cell activation, increased	4	M88282				T	1	İ				
late expression (TACTILE) T cell receptor V alpha	2	X58744		1				$\vdash$				7
gene segment V-alpha-7	4	7,00144										
(clone IGRa11)												╝
T cell receptor V alpha	1	X58740										1
gene segment V-alpha-w27												4
T3 receptor-associating	5	583390	+	+	+	+	+	+				-
cofactor-1	<del></del>	X92763	+	+	_	+		+				$\dashv$
tafazzin (cardiomyopathy, dilated 3A (X-linked);	'	792100	,	'								
endocardial fibroelastosis												
2; Barth syndrome) (TAZ)				<u> </u>								4
TAFII100 protein (non-	1	U80191						1 1				
exact 53%)		X EDDAEG		+	-	+		+				$\dashv$
tankyrase, TRF1-	1	AF082556		*	_	T						
interacting ankyrin-related ADP-ribose polymerase							ļ	ΙÍ				
(TNKS)												
TAP1, TAP2, LMP2, LMP7	1	X66401										7
and DOB												4
TAR DNA-binding protein-	6	U23731	+	T+-	+	+		+				- [
43	2	U40989	+	+	+	+		+				$\dashv$
Tat interactive protein (60kD) (TIP60)	2	040303	· ·		<u> </u>		1					-
TATA box binding protein	1	000268		<b>†</b>								٦
(TBP)-associated factor,	-		ļ	İ			İ	i l		,		- [
RNA polymerase II, C1,			İ	1		1						-1
130kD (TAF2C1) (non-			1	1								-
exact, 55%)	4	X97999	ļ <del> </del>	+	+	+	+	+				ᅥ
TATA box binding protein (TBP)-associated factor,	-	A31333		1	ľ	ĺ						- {
RNA polymerase II, F,			1	į .		l	İ					- [
55kD (TAF2F)			<u> </u>	l								_
TATA box binding protein	2	U21858		+	+	T+	+	+				
(TBP)-associated factor.			1									- 1
RNA polymerase II, G.		İ	Ì		1			1				- [
32kD (TAF2G) TATA box binding protein	1	D63705	+	+-	+	+	<u> </u>	+				┑
(TBP)-associated factor,		555755			1		1	1				
RNA polymerase II, I, 28kD				1		1		1				- 1
(TAFŽI)			ļ	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ļ.,				_
Tax1 (human T-cell	1	U33821	l	+	+	+	+	+				- 1
leukemia virus type I)			l									
binding protein 1 (TAX1BP1)			[			1						
T-box 2 (TBX2) (non-exact		U28049		1	+	+	<b>†</b>	+				コ
77%)					<u></u>							_
TBP-associated factor 172	1	AJ001017		+		+		+				- 1
(TAF-172)		TIAPA -		<b></b>	<u> </u>	<del> </del>	<u> </u>	<del> </del>				ᅴ
T-cell death-associated	1	U95218	1			+	1					-
gene 8 (TDAG8)	1	X82240	+	+	+	├—	├-	<del>                                     </del>	<del> </del>			ᅱ
T-cell leukemia/lymphoma 1A (TCL1A)	'	A0224U	1			}			j			- [
T-cell leukemia/lymphoma	1	X82240		1-	1	t	1	<del>                                     </del>				$\exists$
11A (TCL1A) (low match)			L		<u></u>	<u></u>						┙
T-cell receptor (delta D2-	1	M22197										- [
J1-region) (clone K3B)		<u> </u>	L	.L	L	<u></u>	<u></u>	<u> </u>	<u> </u>			لــ

11 0 00/40/42									
T-cell receptor (V beta 5.1, J beta 1.5, C beta 1) (low	1	M97705							
match) T-cell receptor alpha delta	2	AE000662	'						
(=M94081) T-cell receptor alpha	1	B39625							
enhancer-binding protein, short form (=X58636 Mouse LEF1 lymphoid									
enhancer binding factor 1 (=D16503))									
T-cell receptor delta gene D2-J1-region, clone K3B	1	M22197							
T-cell receptor germline beta chain gene V-region (V) V-beta-MT1-1	1	M11955							
T-cell receptor germline beta-chain gene J2.1 exon	1	M14159	+						only in blood
T-cell receptor germline delta-chain D-J region	2	M22152	···						
T-cell receptor interacting molecule (TRIM) protein	2	AJ224878						+	
T-cell receptor rearranged delta-chain, V-region (V-	-1	M21784							
deita 3-J) T-cell receptor, alpha	3	AE000660	+	+	+	+		Ŧ	
(V,D,J,C) (TCRA) T-cell receptor, beta cluster	3	L34740	+	+	+	+	+	+	high in pancreas
(TCRB) T-cell receptor, delta	2	X73617			+	+		+	
(V,D,J,C) (TCRD) T-cell, immune regulator 1	3	U45285							only found in tumor
(TCIRG1) TCF-1 mRNA for T cell	1	X59870						$\vdash$	
factor 1 TCF-1 mRNA for T cell	1	X59870					<u> </u>		
factor 1 (splice form B) (low match)									
T-COMPLEX PROTEIN 1, ETA SUBUNIT (TCP-1- ETA) (CCT-ETA) (HIV-1 NEF INTERACTING PROTEIN)	1	Q99832							
T-COMPLEX PROTEIN 1, THETA SUBUNIT (TCP-1- THETA) (CCT-THETA) (KIAA0002)	1	P50990							
TCR eta = T cell receptor(eta-exon)	1	594421							
TCR V Beta 13.2	1	X75419							
TERA testis enhanced gene	33	AC004472 X75861	+	+	+	+	+	+	
transcript (TEGT)	2	L11669		+	+	+	ļ	+	
tetracycline transporter-like protein (TETRAN)		U46570	+		+	+		+	
tetratricopeptide repeat domain 1 (TTC1)			*		<u> </u>			+	
tetratricopeptide repeat domain 2 (TTC2)	1	U46571		+		+			
tetratricopeptide repeat domain 3 (TTC3)	1	D84296	+	+	+	+		+	
TGFB1-induced anti- apoptotic factor 1 (TIAF1)	1	D86970	+	+	+	+		+	
thioredoxin reductase 1 (TXNRD1)	3	S79851		+	+	+		+	
THIOREDOXIN- DEPENDENT PEROXIDE REDUCTASE PRECURSOR,	1	P30048							
mitochondrial (ANTI- OXIDANT PROTEIN 1) (AOP-1)									

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threonyl-tRNA synthetase (TARS)	1	M63180		+	+	+		+	
thrombin inhibitor	1	722658							
thrombospondin 1 (THBS1)	2	X04665		+	+	+	+	+	
thromboxane A synthase 1 (platelet, cytochrome P450, subfamily V) (TBXAZ1)	1	M80647		+		+	+	+	
thymidine kinase 2, mitochondrial (TK2)	2	X76104		+	+		+		
thymidylate kinase (CDC8)	1	L16991		+	+	+		+	
thymine-DNA glycosylase (TDG)	2	U51166	+	+	+	+		+	
Thymosin, beta 10 (TMSB10)	2	M20259	+	+	+	+	+	+	
thymosin, beta 4, X chromosome (TMSB4X)	29	M17733		+	+	+		+	
thyroid autoantigen 70kD (Ku antigen) (G22P1)	7	J04611							
thyroid hormone receptor coactivating protein (SMAP)	1	AF016270		+		+		+	
thyroid hormone receptor interactor 7 (TRIP7)	2	L40357		+	+	+		+	
thyroid hormone receptor interactor 8r (TRIP8)	4	L40411		+					
thyroid hormone receptor- associated protein, 230 kDa subunit (TRAP230)	f	D83783							
thyroid receptor interacting protein 15 (TRIP15)	2	L40388	+	+	+	+			
TI-227H	1	D50525							
TIA1 cytotoxic granule- associated RNA-binding protein (TIA1)	1	M77142		+	+	+		+	
tissue inhibitor of metalloproteinase 1 (erythroid potentiating activity, collagenase inhibitor) (TIMP1)	1	X02598	+	+	+	+	+	+	
tissue inhibitor of metalloproteinase 2	1	M32304	+	+	+	+		+	high in placenta
tissue specific transplantation antigen P35B (TSTA3)	1	U58766	+	+	+	+		+	
titin (TTN)	1	X64697	+	+	+	+		+	high in muscle
TNF receptor-associated factor 2 (TRAF2)	1	U12597		+	+	+		+	
TNF receptor-associated factor 3 (TRAF3)	1	AF110908.1		+					
TNF receptor-associated factor 6 (TRAF6) (low match)	1	U78798							
toll-like receptor 1 (TLR1)	1	U88540				+			
toll-like receptor 2 (TLR2)	1	U88878	+	+		+		+	
toll-like receptor 4 (TLR4)	1	U88880		+			+		
toll-like receptor 5 (TILR5)	1	AF051151		+		+			
topoisomerase (DNA) I (TOP1)	1	J03250		+	+	+			
topoisomerase (DNA) II beta (180kD) (TOP2B)	2	X68060	+	+	+	+	<u>.</u>	+	
topoisomerase (DNA) III beta (TOP3B)	3	D87012	+				Ŀ		
TR3beta	1	D85245		+					
TRAF family member- associated NF-kB activator (TANK)	3	U63830	+	+	+	+	+	+	
TRANSALDOLASE	1	P37837		1	<u> </u>	<u> </u>	L.	L.	
transaldolase 1 (TALDO1)	4	L19437			+	+	+	+	

transaldolase-related	1	AF010398						- 1			
protein transcobalamin II (TCII)	<del></del>	AF047576							<del></del>		
transcription elongation	2	Z47087	+	+	+	+	$\neg$	+			
factor B (SIII), polypeptide	_										
transcription elongation factor B (SIII), polypeptide 3 (110kD, elongin A) (TCEB3)	1	L47345	+	+	+	+	+	+			
transcription factor 12 (HTF4, helix-loop-helix transcription factors 4) (TCF12)	1	M83233	+	+	+	+		+			
transcription factor 17 (TCF17)	2	D89928		+		+					
transcription factor 4 (TCR4)	2	X52079		+	+	+		+	<u> </u>		
transcription factor 6-like 1 (mitochondrial transcription factor 1-like) (TCF6L1)	2	M62810	+	+	+	+					
transcription factor 7-like 2 (T-cell specific, HMG-box) (TCF7L2)	1	Y11306		+	+	+		+			
transcription factor binding to IGHM enhancer 3 (TFE3)	1	X96717	+	+	+	+		+			
transcription factor IL-4 Stat	7	AF067575	+	+	+	+	+	+			
transcription factor IL-4 Stat (low match)	1	U16031									
transcription factor ISGF-3 (=M97936)	4	M97935									
transcription factor REST	1	A56138									
transcription factor TFIID	1	Z22828									
transcriptional adaptor 2 (ADA2, yeast, homolog)- like (TADA2L)	1	AF064094									
transcriptional intermediary factor 1 (TIF1) (non-exact 72%)	1	AF009353									
transducin (beta)-like 1 (TBL1)	1	Y12781	+	+	+	+		+			
transducin-like enhancer of split 3, homolog of Drosophila E(sp1) (TLE3)	1	M99438	+	+							
Transformation/transcription domain-associated protein (TRRAP)	1	AF076974	+	+	+	+		+			
transformation-sensitive, similar to Saccharomyces cerevisiae STI1 (STI1L)	2	M86752		+	+	+		+		-	
transforming growth factor beta-activated kinase 1 (TAK1) (non-exact 78%)	1	AB009356									
transforming growth factor beta-stimulated protein TSC-22 (TSC22)	3	AJ222700	+	+	+	+		+			
transforming growth factor, beta receptor III (betaglycan, 300kD)	1	L07594		+	+	+		+			
(TGFBR3) transforming growth factor, beta-induced, 68kD (TGFBI)	2	4507466	+	+	+	+	+	+			
TRANSFORMING GROWTH FACTOR-BETA INDUCED PROTEIN IG-H3 PRECURSOR (BETA IG-H3)	2	Q15582									
transforming, acidic coiled- coil containing protein 1 (TACC1) (non-exact 70%)	1	AF049910									

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transgelin 2 (TAGLN2)	14	D21261	+	+	+	+	+	+	
transgelin 2 (TAGLN2) (non-exact)	1	D21261							
trans-Golgi network protein (46, 48, 51kD isoforms) (TGN51)	2	AF029316		+		+			
transient receptor potential channel 1 (TRPC1)	1	X89066		+	+	+		+	
transketolase (Wemicke- Korsakoff syndrome) (TKT)	7	L12711		+	+	+		+	
translation factor sui1 homolog (GC20)	1	AF064607		+	+	+	+	+	
translin (TSN)	3	X78627	+	+	+	+		+	
translin-associated factor X (TSNAX)	1	X95073		+	+	+		+	
transmembrane	1	U79725							
glycoprotein (A33) transmembrane protein (63kD), endoplasmic reticulum/Golgi intermediate compartment (P63)	1	X69910	+	+	+	+		+	
transmembrane protein 1 (TMEM2)	1	AB001523		+		+		+	
TRANSMEMBRANE PROTEIN SEX PRECURSOR (non-exact 65%)	1	P51805							
transmembrane trafficking protein (TMP21)	2	X97442	+	+	+	+	+	+	
transporter 1, ABC (ATP binding cassette) (TAP1)	3	L21208	+	+	+	+		+	
Treacher Collins- Franceschetti syndrome 1 (TCOF1)	2	U40847	+	+	+	+		+	high in many libraries
triosephosphate isomerase 1 (TPI1)	2	X69723	+	+	+	+	+	+	
tropomyosin	2	X04201		+	+	+		+	
tropomyosin 4 (TPM4)	2	X05276	+	+	+	+		+	
TRPM-2 protein	2	M63376							
tryptase I precursor (non- exact 64%)(=P20231)	1	A35863							
tryptophan rich basic protein (WRB)	1	Y12478							
tryptophanyl-tRNA synthetase (WARS)	1	X59892	+	+	+	+	+	+	
Ts translation elongation factor, mitochondrial (TSFM)	1	L37936	+	+		+		+	
ttopoisomerase (DNA) II beta (180kD)	1	Z15115		+	+			+	
Tu translation elongation factor, mitochondrial (TUFM)	4	L38995							
tuberous sclerosis 1 (TSC1)	1	AF013168		+	+	+		+	
tuberous sclerosis 2 (TSC2)	1	X75621		+	+	+		+	
tubulin, alpha 1 (testis specific) (TUBA1)	1	X06956		+			+		
tubulin, alpha, ubiquitous (K-ALPHA-1)	11	K00558	+	+	+	+	+	+	high in many libraries
tubulin, alpha, ubiquitous (K-ALPHA-1) (low match)	1	K00558							
tubulin-specific chaperone (TBCC)	1	U61234		+	+	+		+	
tumor necrosis factor (ligand) superfamily, member 10 (TNFSF10)	7	U37518		+	+	+		+	

	W O 00/40/49									
Umor necrosis factor (iligand) superfamily, member 14 (TNFSF14) (iligand) superfamily, member 14 (TNFSF14) (iligand) superfamily, member 3 (trins 8 actor (iligand) superfamily, member 8 (trins 8 actor (iligand) superfamily, member 8 (trins 8 actor (iligand) superfamily, member 8 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 10 (trins 8 actor (iligand) superfamily, member 12 (translocation decompleted) (iligand) superfamily, member 12 (translocation decompleted) (iligand) superfamily, member 12 (translocation decompleted) (iligand) superfamily, member 12 (translocation decompleted) (iligand) superfamily, member 12 (translocation decompleted) (iligand) superfamily, member 12 (translocation decompleted) (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, member 16 (trins 8 actor (iligand) superfamily, superfamily, superfamily, superfamily, superfamily, superfamily, s	tumor necrosis factor (ligand) superfamily,	1	AF046888	+	+		+		+	
Umor necrosis factor   1	tumor necrosis factor (ligand) superfamily,	1	AF036581						-	
Limon necrosis factor	tumor necrosis factor (ligand) superfamily,	1	D38122	+						
Jumor necrosis factor protein containing leucine ziphen-inducible cellular protein containing leucine ziphen-inducible cellular protein containing leucine ziphen-dinable cellular protein containing leucine ziphen-dinable cellular protein containing leucine ziphen-dinable cellular protein containing leucine ziphen-dinable cellular protein containing leucine ziphen-dinable cellular protein containing leucine ziphen-dinable cellular protein containing leucine ziphen-dinable cellular protein ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-dinable ziphen-d	tumor necrosis factor (ligand) superfamily,	<del></del>	L09753	В опіу	l					
AF016266	tumor necrosis factor alpha-inducible cellular	<del>1</del>	AF061034		+	+	+		+	
Member 17 (TNFRSF7)	zipper domains (FIP2) Tumor necrosis factor	2	M63928		+			+		
member 10b (TNFRSF10B) tumor necrosis factor receptor superfamily, member 10c, decoy without an intracellular domain (TNFRSF10C) tumor necrosis factor receptor superfamily, member 10d, decoy with tuncated death domain (TNFRSF10D) (non-exact 84%) tumor necrosis factor receptor superfamily, member 12 (translocating chain-association membrane protein) (TNFRSF10C) tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator) (TNFRSF14) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 6 (TNFRSF6) tumor necrosis factor receptor superfamily, member 7 (TNFRSF7) tumor necrosis factor receptor superfamily, member 17 (TNFRSF7) tumor necrosis factor receptor superfamily, member 17 (TNFRSF6) tumor necrosis factor receptor superfamily, member 17 (TNFRSF7) tumor necrosis factor receptor superfamily, member 17 (TNFRSF7) tumor necrosis factor receptor superfamily, member 17 (TNFRSF6) tumor necrosis factor receptor superfamily, member 17 (TNFRSF7) tumor necrosis factor receptor superfamily tumor protein post (L- Fraumeni syndrome) (TNFRSF0) tumor protein post (L- Fraumeni syndrome) (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding protein (TPSBPL) tumor protein post-binding tumor protein post-binding protein (TPSBPL) tumor protein post-binding tumor protein post-binding tumor protein post-binding tumor protein post-binding tumor protein post-binding tumor protein post-binding tumor protein post-binding tumor protein pos	member 7 (TNFRSF7) tumor necrosis factor	1	AF016266		+	+	+	+	+	
receptor superfamily, member 10c, decoy without an intracellular domain (TNFRSF10C) tumor necrosis factor receptor superfamily, member 10d, decoy with truncated death domain (TNFRSF10D) (non-exact 84%) tumor necrosis factor receptor superfamily, member 2 (translocating chain-association member 2 (translocating chain-association member 2 (translocating chain-association member approach) tumor necrosis factor receptor superfamily, member 10d, the provided the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the provided for the pro	receptor superfamily, member 10b (TNFRSF10B) tumor necrosis factor	3	AF012629				_	+		
receptor superfamily, member 10d, decoy with truncated death domain (TNFRSF10D) (non-exact 84%) tumor necrosis factor receptor superfamily, member 12 (translocating chain-association membrane protein) (TNFRSF12) tumor necrosis factor receptor superfamily, member 12 (translocating chain-association membrane protein) (TNFRSF12) tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator) (TNFRSF18) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 6 (TNFRSF18) tumor necrosis factor receptor superfamily, member 6 (TNFRSF18) tumor necrosis factor receptor superfamily, member 2 (TNFRSF) tumor necrosis factor, alpha-induced protein 2 (TNFARP2) tumor necrosis factor, alpha-induced protein 3 (TNFARP2) tumor protein S3-binding protein, 1 (TPS3BP1) tumor protein p53 (Li-Fraumeni syndrome) (TPS3BP1) tumor protein p53 (Li-Fraumeni syndrome) (TPS3BP1) tumor protein p53 (Li-Fraumeni syndrome) (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (TPS3BP1) tumor protein, 1 (T	receptor superfamily, member 10c, decoy without an intracellular domain (TNFRSF10C)									
receptor superfamily, member 12 (translocating chain-association membrane protein) (TNFRSF12) tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator) (TNFRSF14) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) tumor necrosis factor receptor superfamily, member 6 (TNFRSF6) tumor necrosis factor receptor superfamily, member 7 (TNFRSF6) tumor necrosis factor receptor superfamily, member 7 (TNFRSF7) tumor necrosis factor receptor superfamily, member 7 (TNFRSF7) tumor necrosis factor, alpha-induced protein 2 (TNFAIP3) tumor necrosis factor, alpha-induced protein 3 (TNFAIP3) tumor protein 53-binding protein, 1 (TP53BPL) tumor protein p53-binding protein, 1 (TP53BPL) tumor protein p53-binding protein, 1 (TP53BPL) tumor protein p53-binding protein, 1 (TP53BPL) tumor protein p53-binding protein (TP53BPL) tumor protein p53-binding tumor protein p53-binding tumor protein p53-binding tumor protein p53-binding tumor protein p53-binding tumor protein p53-binding tumor protein p53-binding tumor protein p53-binding tumor protein p53-binding tumor protein, translationally-controlled 1 (TPT1) tumor protein, translationally-controlled 1 (TPT1) (tow score) tumor rejection antigen 9 X15187 + + + + + + + +	tumor necrosis factor receptor superfamily, member 10d, decoy with truncated death domain (TNFRSF10D) (non-exact 84%)	1								found only in prostate
tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator) (TNFRSF14) (tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) (tumor necrosis factor receptor superfamily, member 18 (TNFRSF18) (tumor necrosis factor receptor superfamily, member 6 (TNFRSF6) (tumor necrosis factor receptor superfamily, member 6 (TNFRSF7) (tumor necrosis factor, alpha-induced protein 2 (TNFRSF7) (tumor necrosis factor, alpha-induced protein 3 (TNFAIP2) (tumor necrosis factor, alpha-induced protein 3 (TNFAIP3) (tumor protein 53-binding protein, 1 (TP53BP1) (tumor protein p53-binding protein, 1 (TP53BPL) (tumor protein, p53-binding protein (TP53BPL) (tumor protein, p53-binding protein (TP53BPL) (tumor protein, p53-binding protein (TP53BPL) (tumor protein, p53-binding protein (TP53BPL) (tumor protein, p53-binding protein (TP53BPL) (tumor protein, p53-binding protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, protein, prot	tumor necrosis factor receptor superfamily, member 12 (translocating chain-association membrane protein)	1	U94508	+	+	+	+		+	
Tumor necrosis factor receptor superfamily, member 18 (TNFRSF18)	tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)	1	U70321	+	+	+	+		+	
tumor necrosis factor receptor superfamily, member 6 (TNFRSF6) tumor necrosis factor receptor superfamily, member 7 (TNFRSF7) tumor necrosis factor, alpha-induced protein 2 (TNFAIP2) tumor necrosis factor, alpha-induced protein 3 (TNFAIP3) tumor protein 53-binding protein, 1 (TP53) Tumor protein p53 (Li-Fraumeni syndrome) (TP53) Tumor protein, protein, translationally-controlled 1 (TPT1) (low score) tumor protein, translationally-controlled 1 (TPT1) (low score) tumor projection and the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in the superfamily in t	tumor necrosis factor receptor superfamily, member 1B (TNFRSF1B)	5	U52165	+	+	+	+		+	
tumor necrosis factor receptor superfamily, member 7 (TNFRSF7) tumor necrosis factor, alpha-induced protein 2 (TNFAIP2) tumor necrosis factor, alpha-induced protein 3 (TNFAIP3) tumor protein 53-binding protein, 1 (TP53BP1) tumor protein p53 (Li-Fraumeni syndrome) (TP53) Tumor protein p53-binding protein (TP53BPL) tumor protein (TP53BPL) tumor protein, translationally-controlled 1 (TPT1) tumor protein, translationally-controlled 1 (TPT1) tumor protein, translationally-controlled 1 (TPT1) (low score) tumor ejection antigen 9 X15187 + + + + + + + + + + + + + + + + + + +	tumor necrosis factor receptor superfamily,	1	X63717	B, W					+	
tumor necrosis factor, alpha-induced protein 2 (TNFAIP2) tumor necrosis factor, alpha-induced protein 3 (TNFAIP3) tumor protein 53-binding protein, 1 (TP53BP1) tumor protein p53 (Li-Fraumeni syndrome) (TP53) Tumor protein p53-binding protein (TP53BPL) tumor protein, translationally-controlled 1 (TPT1) tumor protein, translationally-controlled 1 (TPT1) (low score) tumor rejection antigen 9 X151B7 + + + + + + + + + + + + + + + + + + +	tumor necrosis factor receptor superfamily,	1	M63928	+	+					
tumor necrosis factor, alpha-induced protein 3 (TNFAIP3)	tumor necrosis factor, alpha-induced protein 2	8	M92357		+	+		+		
tumor protein 53-binding protein, 1 (TP53BP1) tumor protein p53 (Li-Fraumeni syndrome) (TP53) Tumor protein p53-binding 1 U82939 + + + + + + + + + + + + + + + + + +	tumor necrosis factor, alpha-induced protein 3	2	M59465							
tumor protein p53 (Li- Fraumeni syndrome) (TP53)  Tumor protein p53-binding protein (TP53BPL)  tumor protein, translationally-controlled 1 (TPT1)  tumor protein, 1 X16064  translationally-controlled 1 (TPT1) (low score)  tumor rejection antigen 9 X15187 + + + + + + +	tumor protein 53-binding	1	AF078776		+	+	+		+	
Tumor protein p53-binding 1 U82939 + + + + + + + + + + + + + + + + + +	tumor protein p53 (Li- Fraumeni syndrome)	1	M14695	+	+				+	
tumor protein, 35 X16064 translationally-controlled 1 (TPT1) tumor protein, 1 X16064 translationally-controlled 1 (TPT1) (low score) tumor rejection antigen 9 X15187 + + + + + +	Tumor protein p53-binding protein (TP53BPL)	, Ā		+			+		+	
tumor protein, 1 X16064 translationally-controlled 1 (TPT1) (low score) tumor rejection antigen 9 X15187 + + + + + + +	tumor protein, translationally-controlled 1	35								
tumor rejection antigen 9 X15187 + + + + + + +	tumor protein, translationally-controlled 1 (TPT1) (low score)	•								
	tumor rejection antigen	9	X15187	+_	+	+	+	+	+	

VV O 00/40/42									
tumorous imaginal discs (Drosophila) homolog (TID1)	2	AF061749		+					
TXK tyrosine kinase (TXK)	2	L27071		$\vdash$		$\neg$			
type II integral membrane protein (NKG2-E)	1	AJ001685	<u> </u>				+		found only in fetal liver/spleen
TYRO protein tyrosine kinase binding protein	3	AF019562			+				
(TYROBP)		X57346	+	+ +	<del>_</del>	+		+	high in ecnorm
tyrosine 3- monooxygenase/tryptopha n 5-monooxygenase activation protein, beta polypeptide (YWHAB)	1	X37346	•		·				
tyrosine 3- monooxygenase/tryptopha n 5-monooxygenase activation protein, zeta polypeptide ( YWHAZ)	1	M86400							
tyrosine 3-	1	M86400		1					
monooxygenase/tryptopha n 5-monooxygenase activation protein, zeta polypeptide (YWHAZ)									
Tyrosine kinase 2 (TYK2)	3	X54637		+	+	+		+	
TYROSINE-PROTEIN KINASE ZAP-70 (70 KD ZETA-ASSOCIATED PROTEIN) (SYK-RELATED TYROSINE KINASE)	2	P43403							
tyrosyl-tRNA synthetase (YARS)	1	U89436	+	+	+	+		+	
U1 small nuclear RNA	1	M14387							
U19H snoRNA (=M63485 R.norvegicus matrin 3)	1	AJ224166							
U2(RNU2) small nuclear RNA auxillary factor 1 (non-standard symbol)	1	M96982		+	+	+		+	·
U22 snoRNA host gene (UHG)	2	U40580							
U4/U6-associated RNA splicing factor (HPRP3P)	4	AF016370		+	+	+		+	
U49 small nuclear RNA	1	X96649		1					
U5 snRNP-specific protein (220 kD), ortholog of S. cerevisiae Prp8p (PRP8)	1	AB007510	+ ,	+	+	+		+	
U5 snRNP-specific protein, 116 kD (U5-116KD)	4	D21163	+	+	+	+		+	
U5 snRNP-specific protein, 200 kDa (DEXH RNA helicase family) (U5-200- KD)	3	Z70200							
Uba80 mRNA for ubiquitin	4	S79522	+	+	+	+	+	+	high in ovary
ubiquinol-cytochrome c reductase (6.4kD) subunit (UQCR)	-1	D55636	+	+	+	+	+	+	high in fetal lung
ÜBIQUÍNOL- CYTOCHROME C REDUCTASE IRON- SULFUR SUBUNIT PRECURSOR (RIESKE IRON-SULFUR PROTEIN) (RISP) (low match)	1	P47985							
ubiquitin A-52 residue ribosomal protein fusion	2	X56999							
product 1 (UBA52)				<u> </u>		<u> </u>	_	<u> </u>	ļ
ubiquitin activating enzyme E1-like protein (GSA7)	1	AF094516		+	+		_	+	high in ough:
ubiquitin C (UBC)	5	T AB009010		+	+	+	+	+	high in ovary

ubiquitin carboxyl-terminal 1 M30496 + + + + + + + + + + + + + + + + + + +	
ubiquitin fusion degradation 1 U64444 + + + + + + + + 1-like (UFD1L)	
ubiguitin protein ligase E3A 1 U84404 B + + + +	
associated protein,  Angelman syndrome)  (UBE3A)	
ubiquitin specific protease 4 D80012 + + + + + + + 10 (USP10)	
ubiquitin specific protease 1 U44839 + + + + + + + + + + + + + + + + + + +	
ubiquitin specific protease 3 AB011101 + + + + + + + + 15 (USP15)	
ubiquitin specific protease 1 AB020698 + 19 (USP19)	
ubiquitin specific protease 1 AF017305 B + + + + + + + + + + + + + + + + + +	
ubiquitin specific protease 1 AF017306 4 (proto-oncogene) (USP4) (non-exact, 66%)	
Ubiquitin specific protease 1 Z72499 + + + + + + + + + + + + + + + + + +	
ubiquitin specific protease 5 D29956 + + + + + + 8 (USP8)	
UBIQUITIN-ACTIVATING 1 P22314 ENZYME E1 (A1S9 PROTEIN) (56%)	
ubiquitin-activating enzyme 1 M58028 + + + + + + + + + + + + + + + + + + +	
ubiquitin-activating enzyme 1 L34170 + + + + + + +   +   E1, like (UBE1L)	
UBIQUITIN-BINDING 1 U41806 + + + PROTEIN P62; phosphotyrosine independent ligand for the Lck SH2 domain p62 (P62)	
ubiquitin-conjugating 2 U49278 + + + + + + + + + + + + + + + + + + +	
ubiquitin-conjugating 1 X98091 enzyme E2 variant 2 (UBE2V2)	
ÜBIQUITÍN- 1 Q16781 CONJUGATING ENZYME E2-17 KD (UBIQUITIN- PROTEIN LIGASE)	
ubiquitin-conjugating 1 M74525 + + + + + + + + + + + + + + + + + +	
ubiquitin-conjugating 1 AF032456 + + + + + + + + + + + + + + + + + + +	
ubiquitin-conjugating 1 Z29328 + + + + + + + + + + + + + + + + + + +	
ubiquitin-conjugating 1 X92962 + + + + + + enzyme E2L 1 (UBE2L1)	
ubiquitin-conjugating 3 AJ000519 + + + + + + + enzyme E2L 3 (UBE2L3)	
ubiquitin-conjugating 4 AF031141 + + + + + + + enzyme E2L 6 (UBE2L6)	
ubiquitin-like 1 (sentrin) 2 U61397 + + + + + + +   +   (UBL1)	

WO 00/40/49									
UDP-N-acetyl-alpha-D- galactosamine:polypeptide N-	2	X85019							
acetylgalactosaminyltransf erase 2 (GalNAc-T2)									
(GALNT2) UDP-N-acetyl-alpha-D- galactosamine:polypeptide	1	X92689						_	
N- acetylgalactosaminyltransf									
erase 3 (GalNAc-T3) (GALNT3) (non-exact 65%)									
unactive progesterone receptor, 23 Kd (P23)	2	L24804		+	+	+		+	
unconventional myosin-ID (MYO1F)	3	U57053							
uncoupling protein homolog (UCPH)	1	U94592							
uncoupling protein homolog (UCPH) (low match 67%)	1	U94592							
Unknown gene product	1	AC002310							
unknown mRNA (clone 24514)	7	AF070542							
unknown protein (clone ICRFp507L0677)	2	Z70223							
unknown protein (Hs.93832)	1	AF070626	+	+	+	+	+	+	
unknown protein IT14	1	AF040966					<u></u>	<u> </u>	<u> </u>
uppressor of Ty (S.cerevisiae) 6 homolog	1	D79984	+	+	+	+	+	+	
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1)	74	\$73591	+	+	+	+		+	high in heart
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1) (low match)	1	S73591							
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1) (low match)	1	573591							
upregulated by 1,25- dihydroxyvitamin D-3 (VDUP1) (low score)	1	573591							
upstream binding factor (hUBF)	1	X53461	+	+		+		+	
UV radiation resistance associated gene (UVRAG)	2	X99050		+	+	+		+	
vacuolar proton-ATPase, subunit D; V-ATPase, subunit D (ATP6DV)	4	X71490		+	+	+	+	+	
v-akt murine thymoma viral oncogene homolog 1 (AKT1)	1	M63167	+	+	+	+		+	
Vanin 2 (VNN2)	3	AJ132100		1					
vasodilator-stimulated phosphoprotein (VASP)	3	Z46389	+		+	+		+	
vav 1 oncogene (VAV1)	1	M59834		1				+	
vav 2 oncogene (VAV2)	1	576992	+	+					
v-crk avian sarcoma virus CT10 oncogene homolog (CRK)	1	D10656	W	+	+		+		
v-erb-b2 avian erythroblastic leukemia viral oncogene homolog 3 (ERBB3)	1	M29366						+	
VERSICAN CORE PROTEIN PRECURSOR	1	P13611							
Vesicle-associated membrane protein 1 (synaptobrevin 1) (VAMP1)	1	M36196		+	+	+		+	

WO 00/40/49									
vesicle-associated membrane protein 3 (cellubrevin) (VAMP3)	1	U64520							
v-fos FBJ munne osteosarcoma viral oncogene homolog (FOS)	26	K00650		+	+	+	+	+	high in aorta
v-fos FBJ murine osteosarcoma viral oncogene homolog (FOS)	1	K00650							
villin 2 (ezrin) (VIL2)	1	X51521	+	+	+	+		+	
villin-like protein	1	D88154							
vimentin (VIM)	12	X56134		+	+	+	+	+	high in many libraries
vinculin (VCL)	4	M33308		+	+	+		+	
vitamin A responsive; cytoskeleton related (JWA)	6	AF070523	·····	+	+	*		+	
v-jun avian sarcoma virus 17 oncogene homolog (JUN)	2	U65928	+	+	+	+		+	
v-myb avian myeloblastosis viral oncogene homolog (MYB)	1	M15024			+		+		
voltage-dependent anion channel 1 (VDAC1)	1	L06132	+	+	+	+		+	
voltage-dependent anion channel 3 (VDAC3)	4	U90943		+	+	+		+	
von Hippel-Lindau syndrome (VHL)	1	L15409		+	+	+		+	
von Willebrand factor (vWF) (low matched)	1	X06828							
v-raf murine sarcoma 3611 viral oncogene homolog 1 (ARAF1)	2	L24038	+	+	+	+			
v-raf-1 murine leukemia viral oncogene homolog 1 (RAF1)	1	X03484	+	+	+	+		+	
v-ral simian leukemia viral oncogene homolog B (ras related; GTP binding protein) (RALB)	3	M35416							
V-rel avian reticuloendotheliosis viral oncogene homolog A (nuclear factor of kappa light polypeptide gene enhancer in B-cells 3 (p65)) (RELA)	1	L19067		+	+	+		+	·
v-yes-1 Yamaguchi sarcoma viral related oncogene homolog (LYN)	2	M16038	+	+		+		+	
WD repeat domain 1 (WDR1)	1	AB010427	+	+	+	+	+	+	
WDR1 (=AF020260)	1	AF020056							
WD-repeat protein (HAN11)	2	U94747		+	+			+	
Williams-Beuren syndrome chromosome region 1 (WBSCR1)	12	AF045555	+	+	+	+	+	+	
Wiskott-Aldrich syndrome protein interacting protein (WASPIP)	4	X86019	+	+	+			+	
X (inactive)-specific transcript (XIST)	2	M97168							
xeroderma pigmentosum, complementation group C (XPC)	3	D21089	+	+	+	+			
XIAP associated factor-1	2	X99699				+			
XIB	1	X90392		+	+		+	+	
X-linked anhidroitic ectodermal dysplasia	1	AF003528							

110 00/40/42									
X-ray repair	1	M30938	+	+	+	+		+	high in spleen
complementing defective repair in Chinese hamster				1		[			
cells 5 (double-strand-									
break							1		
rejoining; Ku autoantigen, 80kD) (XRCC5)									
XRP2 protein	1	AJ007590							
veloid differentiation	1	U84408		+	+	+	-	+	
primary response gene	·								
(88) (MYD88)				<u> </u>		<u> </u>			
zeta-chain (TCR) associated protein kinase	1	L05148	+			+			
(70kD) (ZAP70)									
zeta-chain (TCR)	1	L05148						-	
associated protein kinase									
(70kD) (ZAP70) (low match)									
zinc finger protein	2	U69274	+	+	+	+		+	
(Hs.47371)				<u> </u>					
zinc finger protein	1	U69645	+	+	+	+		+	
(Hs.78765) zinc finger protein 10 (KOX	1	X78933		├					+ only
1) (ZNF10)	•	A70933		ŀ					· Unity
ZÍNC FINGER PROTEIN	1	Q15973		t					
124 (HZF-16) (non-exact					l				`
51%)		S54641		├			-		
zinc finger protein 124 (HZF-16) (ZNF124) (non-	'	334041							1
exact, 78%)				1					
ZINC FINGER PROTEIN	1	P52736							
133		U09367		-	+	+	<u> </u>		
zinc finger protein 136 (clone pHZ-20) (ZNF136)	•	009367			*	*			
zinc finger protein 140	1	U09368		+		+		+	
(clone pHZ-39) (ZNF140)								<u> </u>	
zinc finger protein 140	1	AF060865						1	
(clone pHZ-39) (ZNF140) (non-exact 59%)				İ		l			
zinc finger protein 140		U09368		1		1	╁─		
(clone pHZ-39) (ZNF140)				1					
(non-exact 73%)		S66508		-	-			<u> </u>	
zinc finger protein 140 (clone pHZ-39) (ZNF140)	1	300300						İ	
(non-exact 73%aa)								İ	
zinc finger protein 140	1	U09368							
(clone pHZ-39) (ZNF140)									
(non-exact, 80%) zinc finger protein 143	2	009850	+	+	+	+	+	+	
(clone pHZ-1) (ZNF143)	_			L		L	L_	L	
zinc finger protein 143	1	U09850				Π			
(clone pHZ-1) (ZNF143)				'					
(low match) zinc finger protein 148		AF039019	+	1	$\vdash$	<del> </del>	-		
(pHZ-52) (ZNF148)	•	000010	·						
ZINC FINGER PROTEIN	1	Q13105							
151 (MIZ-1 PROTEIN) (low								l	
rnatch) zinc finger protein 173		U09825	В, Т	+	+	<del> </del>	+		
(ZNF173)	•	30020	5, '		'			ŀ	
zinc finger protein 192	1	U57796							
(ZNF192) (non-exact, 66%)		A 155 255 4		1	+	+	<del> </del>	<u> </u>	
zinc finger protein 198 (ZNF198)	1	AJ224901		+	-	*	i	l	
zinc finger protein 2 (ZNF2)		X60152		$\vdash$	$\vdash \vdash$	$\vdash$	<u> </u>	$\vdash$	
(low match)					L		Ŀ	L_	
zinc finger protein 200	1	AF060866		+		+			
(ZNF200)	6	AF046001	+	+	+	+	+	+	high in prostate
zinc finger protein 207 (ZNF207)	O	AF040001	T	•		•	•	'	ingii iii prostate
zinc finger protein 216	2	AF062072	+	+	+	+		+	
(ZNF216)					<u> </u>				L
						_			

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WO 00/40749									J1/CA00/00003
zinc finger protein 217 (ZNF217)	1	AF041259	Tactiv	ated				+	
ZINC FINGER PROTEIN 22 (ZINC FINGER PROTEIN KOX15) (non-	1	P17026							
exact 58%) zinc finger protein 230	<del>1</del>	U95044	-	+					
(ZNF230)	<u>'</u>	L26914		+		+			
Zinc finger protein 239 (ANF239)				+		+		+	
zinc finger protein 261 (ZNF261)		AB002383	ļ <u></u>						
zinc finger protein 262 (ANF262)		AB007885		+	+	+		+	
zinc finger protein 263 (ZNF263)	1	D88827							
zinc finger protein 264 (ZNF264)	1	AB007872		+	+	+			
ZINC FINGER PROTEIN 33A (ZINC FINGER PROTEIN KOX31) (KIAA0065) (HA0946)	1	Q06730	10						
zinc finger protein 42 (myeloid-specific retinoic cid- responsive) (ZNF42)	1	M58297	+	+	+	+		+	
zinc finger protein 43 (HTF6) (ZNF43) (low match)	1	X59244							
zinc finger protein 43 (HTF6) (ZNF43) (non- exact, 54%)	1	X59244							
zinc finger protein 43 (HTF6) (ZNF43) (non- exact, 71%)	1	X59244							
ZINC FINGER PROTEIN 43 (ZINC PROTEIN HTF6) (non-exact 67%)	1	P28160							
zinc finger protein 45 (a Kruppel-associated box (KRAB) domain polypeptide) (ZNF45)	1	L75847							only found in testis
ZINC FINGER PROTEIN 46 (ZINC FINGER PROTEIN KUP) (non-exact 62%)	1	P24278							
zinc finger protein 6 (CMPX1) (ZNF6)	1	X56465		+	+	+		+	
zinc finger protein 74 (Cos52) (ZNF74) (non- lexact, 67%)	1	X71623							
zinc finger protein 76 (expressed in testis) (ZNF76)	1	M91592		+	+	+		+	
ZINC FINGER PROTEIN 83 (ZINC FINGER PROTEIN HPF1) (non- exact 65%)	1	P51522							
zinc finger protein 84 (HPF2) (ZNF84)	1	M27878	Tactivated	+	+			+	
zinc finger protein 85 (ZNF85))	2	U35376		+	+	+			
zinc finger protein 9 (ZNF9)	5	M28372		+	+	+	+	+	
ZINC FINGER PROTEIN 93 (=ZINC FINGER PROTEIN HTF34) (non- exact 70%)	1	P35789							
zinc finger protein C2H2-25 (ZNF25)	3	U38904		+	+	+			
zinc finger protein clone L3-4	1	AF024706							
zinc finger protein homologous to Zfp-36 in mouse (ZFP36)	4	M92843	+						blood only

ZINC FINGER PROTEIN HRX (ALL-1) (71%a.a.)	1	Q03164							,,	
zinc finger protein HZF4	1	X78927		1		i				
zinc finger protein RIZ	1	D45132	+	+	+	+	+	-		
zinc finger protein, subfamily 1A, 1 (Ikaros) (LYF1)	1	U40462	+							
zinc tinger protein, subfamily 1A, 1 (Ikaros) (LYF1) (low match)	1	U40462								
zinc finger transcriptional regulator (GOS24)	1	M92844								
zinc-finger helicase (hZFH)	2	U91543	+	+	+	+	+		•	
Zn-15 related zinc finger protein (rlf)	1	U22377		+	+	+				
Zn-15 related zinc finger protein (rlf) (non-exact 56%)	1	U22377								
ZNF80-linked ERV9 long terminal repeat	1	X83497	1.11.7.11.2							
ZW10 (Drosophila) homolog, centromere/kinetochore protein (ZW10)	2	U54996		+						
zyxin (ZYX)	4	X95735	•							

Column 1: List of unique genes derived from 6,283 known ESTs from blood cells.

Column 2: Number of genes found in randomly sequenced ESTs from blood cells.

Column 3: Accession number. Column 4: "+" indicates the presence of the unique gene in publicly available cDNA libraries of blood (Bl), brain (Br), heart (H), kidney (K), liver (Li) and lung (Lu). \*\*Comparison to previously identified tissue-specific genes was determined using the GenBank of the National Centre of Biotechnology Information (NCBI) Database.

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## **Discussion**

Every cell and tissue comprising the human body share the necessary genetic information required to maintain cellular homeostasis. These "housekeeping" genes function in basic cellular maintenance, including energy metabolism and cellular structure in all cell types. However, in certain situations, even the housekeeping genes show altered expression. Thus, it is necessary to define the use of these genes as internal controls from one investigation to another. Current results from the human blood cell EST database indicate that over 50% of the transcripts are

widely expressed throughout the human body. Most of the cell or tissue specific genes are also detectable in blood cells by RT-PCR analysis.

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For example, isoformic myosin heavy chain genes are known to be generally expressed in cardiac muscle tissue. In the rodent, the βMyHC gene is only highly expressed in the fetus and in diseased states such as overt cardiac hypertrophy, heart failure and diabetes; the αMyHC gene is highly expressed shortly after birth and continues to be expressed in the adult heart. In the human, however, βMyHC is highly expressed in the ventricles from the fetal stage through adulthood. This highly expressed βMyHC, which harbours several mutations, has been demonstrated to be involved in familial hypertrophic cardiomyopathy (Geisterfer-Lowrance *et al.* 1990). It was reported that mutations of βMyHC can be detected by PCR using blood lymphocyte DNA (Ferrie et al., 1992). Most recently, it was also demonstrated that mutations of the myosin-binding protein C in familial hypertrophic cardiomyopathy can be detected in the DNA extracted from lymphocytes (Niimura *et al.*, 1998).

Similarly, APP and APC, which are known to be tissue specific and predominantly expressed in the brain and intestinal tract, are also detectable in the transcripts of blood. These cell- or tissue-specific transcripts are not detectable by Northern blot analysis. However, the low number of transcript copies can be detected by RT-PCR analysis. These findings strongly demonstrate that genes preferentially expressed in specific tissues can be detected by a highly sensitive RT-PCR assay. In recent years, evidence has been obtained to indicate that expression of cell or tissue-restricted genes can be detected in the peripheral blood of patients with metastatic transitional cell carcinoma (Yuasa et al. 1998) and patients with prostate cancer (Gala et al. 1998).

Atrial natriuretic factor (ANF) and zinc finger protein (ZFP), which are known to be highly expressed in heart tissue biopsies and in the plasma of heart failure patients, are also detectable in the transcripts of blood. Differential expression of zinc finger protein among the normal, diabetic and asymptomatic preclinical

subjects may have additional value as a prophylactic "early warning system". On a related note, there is now more attention/discussion in the cardiovascular disease field being focused on Syndrome X, loosely defined as a continuum of hypertension, increasing sugar levels, diabetes, kidney failure, culminating in heart failure, with the possibility of stroke and heart attack at any time in the continuum. The early identification of patients at risk of organ failure has been a challenge to the medical community for some time and the present method has the potential of resolving or, at least, ameliorating this challenge.

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The present invention demonstrates that a simple drop of blood may be used to determine the quantitative expression of various mRNAs that reflect the health/disease state of the subject through the use of RT-PCR analysis. This entire process takes about three hours or less. The single drop of blood may also be used for multiple RT-PCR analyses. There is no need for large samples and/or costly and time-consuming separation of cell types within the blood for this method as compared to the methods described by Kimoto (1998) and Chelly et al. (1989; 1988). It is believed that the present finding can potentially revolutionize the way that diseases are detected, diagnosed and monitored because it provides a non-invasive, simple, highly sensitive and quick screening for tissue-specific transcripts. The transcripts detected in whole blood have potential as prognostic or diagnostic markers of disease, as they reflect disturbances in homeostasis in the human body. Delineation of the sequences and/or quantitation of the expression levels of these marker genes by RT-PCR will allow for an immediate and accurate diagnostic/prognostic test for disease or to assess the efficacy and monitor a particular therapeutic.

In addition to RT-PCR, other methods of amplifying may also be used for the purpose of measuring/quantitating tissue-specific transcripts in human blood. For example, mass spectrometry may be used to quantify the transcripts (Koster et al., 1996; Fu et al., 1998). The application of presently disclosed method for detecting tissue-specific transcripts in blood does not restrict to subjects undergoing course of

therapy or treatment, it may also be used for monitoring a patient for the onset of overt symptoms of a disease. Furthermore, the present method may be used for detecting any gene transcripts in blood. A kit for diagnosing, prognosing or even predicting a disease may be designed using gene-specific primers or probes derived from a whole blood sample for a specific disease and applied directly to a drop of blood. A cDNA library specific for a disease may be generated from whole blood samples and used for diagnosis, prognosis or even predicting a disease.

The following references were cited herein:

Claudio JO et al. (1998). Genomics 50:44-52.

5

10 Chelly J et al. (1989). Proc. Nat. Acad. Sci. USA. 86:2617-2621.

Chelly J et al. (1988). Nature 333:858-860.

Drews J & Ryser S (1997). Nature Biotech. 15:1318-9.

Ferrie RM et al. (1992). Am. J. Hum. Genet. 51:251-62.

Fu D-J et al. (1998). Nat. Biotech 16: 381-4.

15 Gala JL et al. (1998). Clin. Chem. 44(3):472-81.

Geisterfer-Lowrance AAT et al. (1990). Cell 62:999-1006.

Groden J et al. (1991). Cell 66:589-600.

Hwang DM et al. (1997). Circulation 96:4146-4203.

Jandreski MA & Liew CC (1987). Hum. Genet. 76:47-53.

20 Jin O et al. (1990). Circulation 82:8-16

Kimoto Y (1998). Mol. Gen. Genet 258:233-239.

Koster M et al. (1996). Nat. Biotech 14: 1123-8.

Liew & Jandreski (1986). Proc. Nat. Acad. Sci. USA. 83:3175-3179

Liew CC et al. (1990). Nucleic Acids Res. 18:3647-3651.

25 Liew CC (1993). J Mol. Cell. Cardiol. 25:891-894

Liew CC et al. (1994). Proc. Natl. Acad. Sci. USA. 91:10645-10649.

Liew et al. (1997). Mol. and Cell. Biochem. 172:81-87.

Niimura H et al. (1998). New Eng. J. Med. 338:1248-1257.

Ogawa M (1993). Blood 81:2844-2853.

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Santoro IM & Groden J (1997). Cancer Res. 57:488-494.

Yuasa T et al. (1998). Japanese J. Cancer Res. 89:879-882.

Any patents or publications mentioned in this specification are indicative of the levels of those skilled in the art to which the invention pertains. Further, these patents and publications are incorporated by reference herein in their entirety to the same extent as if each individual publication was specifically and individually indicated to be incorporated by reference.

One skilled in the art will appreciate readily that the present invention is well adapted to carry out the objects and obtain the ends and advantages mentioned, as well as those objects, ends and advantages inherent herein. The present examples, along with the methods, procedures, treatments, molecules, and specific compounds described herein are presently representative of preferred embodiments, are exemplary, and are not intended as limitations on the scope of the invention. Changes therein and other uses will occur to those skilled in the art which are encompassed within the spirit of the invention as defined by the scope of the claims.

## WO 00/40749 WHAT IS CLAIMED IS:

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- 1. A method for detecting expression of a gene in blood from a subject, comprising the steps of:
  - a) quantifying RNA from a subject blood sample; and
- b) detecting expression of said gene in the quantified RNA, wherein the expression of said gene in said quantified RNA indicates expression of said gene in the subject blood.
- 10 2. The method of claim 1, wherein the quantification is performed by mass spectrometry.
  - 3. A method for detecting expression of one or more genes in blood from a subject, comprising the steps of:
    - a) obtaining a subject blood sample;
    - b) extracting RNA from said blood sample;
    - c) amplifying said RNA;
  - d) generating expressed sequence tags from the amplified RNA product; and
- e) detecting expression of said genes in the expressed sequence tags, wherein the expression of said genes in said expressed sequence tags indicates expression of said genes in the subject blood.
- 4. The method of claim 3, wherein said genes are non-cancer-25 associated genes.
  - 5. The method of claim 3, wherein said genes are tissue-specific genes.

6. The method of claim 3, wherein said subject is a fetus, an embryo, a child, an adult or a non-human animal.

- 5 7. The method of claim 3, wherein the amplification is performed by RT-PCR.
  - 8. The method of claim 7, wherein said RT-PCR utilizes primers selected from the group consisting of random sequence primers and gene-specific primers.
    - 9. A method for detecting expression of one or more genes in blood from a subject, comprising the steps of:
      - a) obtaining a subject blood sample;
      - b) extracting DNA fragment(s) from said blood sample;
      - c) amplifying said DNA fragment(s); and
    - d) detecting expression of said genes in the amplified DNA product, wherein the expression of said genes in said amplified DNA product indicates expression of said genes in the subject blood.

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- 10. A method for monitoring a course of therapeutic treatment in an individual, comprising the steps of:
  - a) obtaining a blood sample from said individual;
  - b) extracting RNA from said blood sample;
  - c) amplifying said RNA;
- d) generating expressed sequence tags from the amplified RNA product; and

e) detecting expression of genes in said expressed sequence tags, wherein the expression of said genes is associated with the effect of said therapeutic treatment; and

- f) repeating steps a)-e), wherein the course of said therapeutic treatment is monitored by detecting the change of expression of said genes in the expressed sequence tags.
  - 11. The method of claim 10, wherein the amplification is performed by RT-PCR.

- 12. The method of claim 11, wherein the change of expression of said genes in the expressed sequence tags is monitored by sequencing the expressed sequence tags and comparing the resulting sequences at various time points.
- 13. The method of claim 11, wherein the change of expression of said genes in the expressed sequence tags is monitored by performing single nucleotide polymorphism analysis and detecting the variation of a single nucleotide in the expressed sequence tags at various time points.
- 20 14. The method of claim 10, wherein said individual is monitored for the onset of overt symptoms of a disease, and wherein the expression of said genes is associated with the onset of said symptoms.
- 15. A method for diagnosing a disease in a test subject, comprising
  25 the steps of:
  - a) generating a cDNA library for said disease from a whole blood sample from a normal subject;

b) generating expressed sequence tag (EST) profile from the normal subject cDNA library;

c) generating a cDNA library for said disease from a whole blood sample from a test subject;

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- d) generating EST profile from the test subject cDNA library; and
- e) comparing the test subject EST profile to the normal subject EST profile, wherein if said test subject EST profile differs from said normal subject EST profile, said test subject might be diagnosed with said disease.
- 16. A kit for diagnosing, prognosing or predicting a disease, comprising:
  - a) gene-specific primers; wherein said primers are designed in such a way that the sequences of said primers contain the opposing ends of two adjacent exons for the specific gene with the intron sequence excluded; and
    - b) a carrier, wherein said carrier immobilizes said primer(s).
  - 17. The kit of claim 16, wherein said gene-specific primer(s) are selected from the group consisting of insulin-specific primers, atrial natriuretic factor-specific primers, zinc finger protein gene-specific primers, beta-myosin heavy chain gene-specific primers, amyloid precurser protein gene-specific primers, and adenomatous polyposis-coli protein gene-specific primers.
  - 18. The kit of claim 17, wherein the sequences of said genespecific primers are selected from the group consisting of SEQ ID Nos. 1 and 2, and SEQ ID Nos. 5 and 6.
  - 19. A method for diagnosing, prognosing or predicting a disease in a test subject, comprising the step of:

applying the kit of claim 16 to a test subject whole blood sample, wherein quantitative expression levels of specific genes associated with said disease are detected and compared to the levels of said specific genes expressed in a normal subject, therefore, said disease may be diagnosed, prognosed or predicted.

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20. The method of claim 19, wherein said method is used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of said disease.

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- 21. A kit for diagnosing, prognosing or predicting a disease, comprising:
- a) probes derived from a whole blood sample for a specific disease; and
  - b) a carrier, wherein said carrier immobilizes said probes.

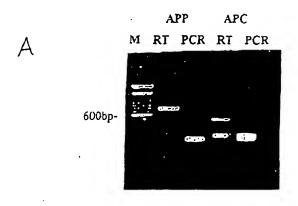
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22. A method for diagnosing, prognosing or predicting a disease in a test subject, comprising the step of:

applying the kit of claim 21 to a test subject whole blood sample, wherein quantitative expression levels of specific genes associated with said disease are detected and compared to the levels of said specific genes expressed in a normal subject, therefore, said disease may be diagnosed, prognosed or predicted.

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- 23. The method of claim 22, wherein said method is used for monitoring a course of therapeutic treatment or monitoring the onset of overt symptoms of said disease.
- 24. A cDNA library specific for a disease, wherein said cDNA library is generated from whole blood samples.



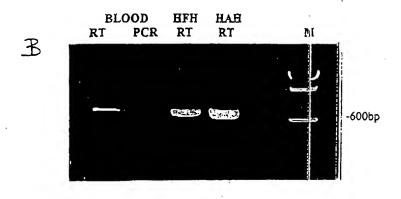
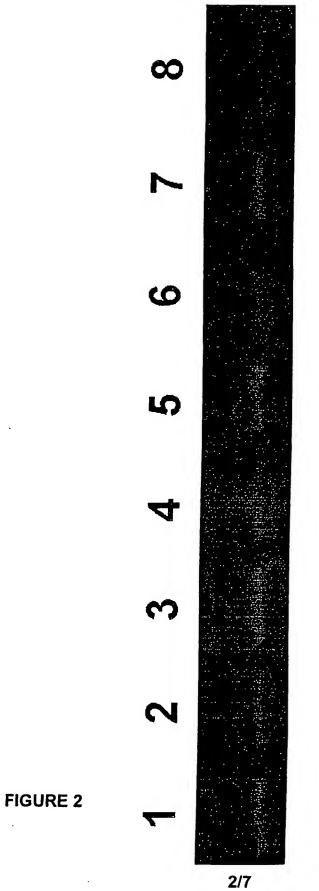


FIGURE 1 1/7



SUBSTITUTE SHEET (RULE 26)

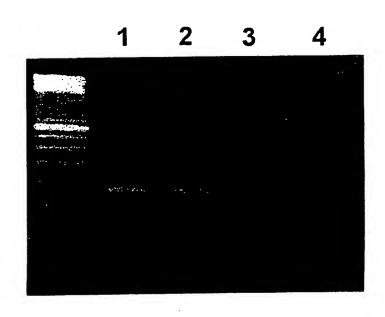


FIGURE 3 3/7

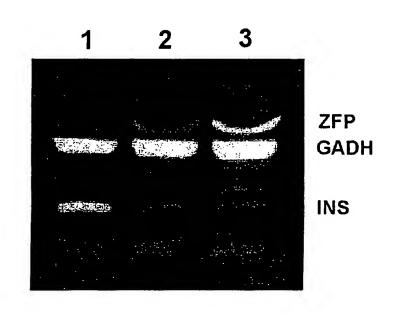
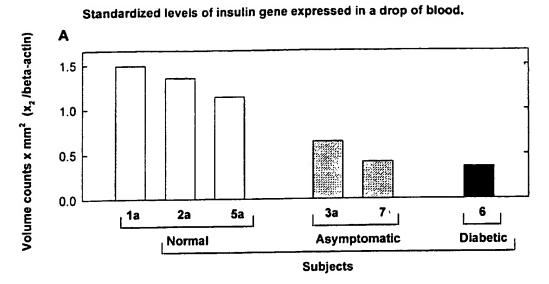
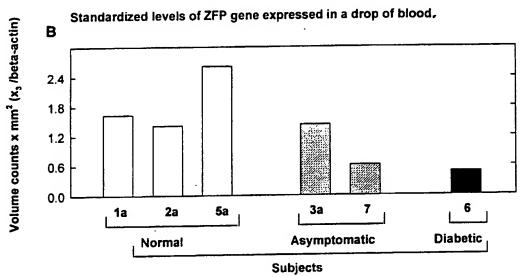


FIGURE 4 4/7





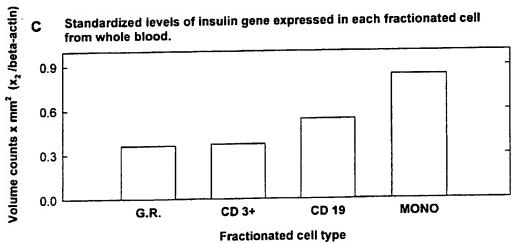


FIGURE 5

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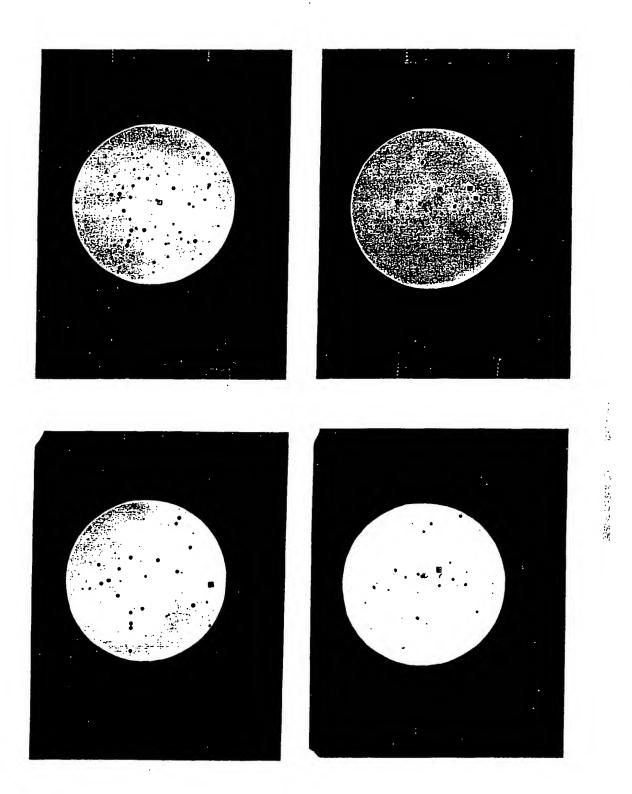


FIGURE 6 6/7

Total: 13,283 ESTs Known: 6,283

Mitochondrial: 405

Ribosome: 498 Repeat: 868 Mis.: 156 Novel: 2,718

Human Blood

# Human Fetal Heart

■ Cell Signalling/Communication □ Cell/organism defense □ Cell structure/Motility Cell Division

**■**5% ■8%

**■**22%

%9**■** 

%9□

■Gene/Protein expression Metabolism

■ Unclassified

□26%

**■**29%

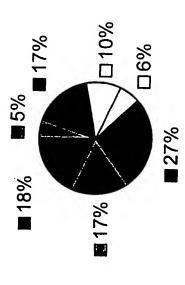


FIGURE 7

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Inter Inal Application No PCT/CA 00/00005

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

### B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, MEDLINE, CHEM ABS Data, BIOSIS, EMBASE, EMBL

Citation of document, with indication, where appropriate, of the relevant passages	Refevant to claim No.
WO 98 49342 A (COCKBAIN JULIAN R M ;FORSKNINGSPARKEN I AAS AS (NO); LOENNEBORG AN)	1-15, 21-24
the whole document	19,20
WO 98 24935 A (AN GANG ; HARA MARK O (US); RALPH DAVID (US); VELTRI ROBERT (US); U)	1-15, 21-24
the whole document	19,20
EP 0 534 640 A (PFIZER)	16
the whole document	17-20
_/	
	WO 98 49342 A (COCKBAIN JULIAN R M; FORSKNINGSPARKEN I AAS AS (NO); LOENNEBORG AN) 5 November 1998 (1998-11-05) the whole document  WO 98 24935 A (AN GANG; HARA MARK O (US); RALPH DAVID (US); VELTRI ROBERT (US); U) 11 June 1998 (1998-06-11) the whole document  EP 0 534 640 A (PFIZER) 31 March 1993 (1993-03-31)

X Further documents are listed in the continuation of box C.	Patent family members are listed in annex.			
Special categories of cited documents:  A* document defining the general state of the art which is not considered to be of particular relevance  E* earlier document but published on or after the international filling date  L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  O* document referring to an oral disclosure, use, exhibition or other means  P* document published prior to the international filling date but later than the priority date claimed	<ul> <li>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention.</li> <li>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone.</li> <li>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</li> <li>"8" document member of the same patent family</li> </ul>			
Date of the actual completion of the international search	Date of mailing of the international search report			
27 June 2000	12/07/2000			
Name and mailing address of the ISA	Authorized officer			
European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Hagenmaier, S			

Inter and Application No PCT/CA 00/00005

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 11, 28 November 1997 (1997-11-28) & JP 09 187299 A (NIPPON BIO SERAPII KK), 22 July 1997 (1997-07-22) abstract & DATABASE GCG_GENESEQ 'Online! AC:V00198, March 1998 (1998-03) NIPPON BIOTHERAPY: "HUMAN INSULIN SENSE PRIMER INS-7" abstract	17,18
Y	DATABASE GENBANK 'Online! AC:V00565, March 1995 (1995-03) BELL ET AL.: "HUMAN GENE FOR PREPROINSULIN" XP002141055 abstract	17,18
Y	DATABASE GENBANK 'Online! AC:M54947, April 1993 (1993-04) SEIDMAN ET AL.: "HUMAN ATRIAL NATRIURETIC FACTOR GENE" XP002141054 abstract	17,18
Y	DATABASE GENBANK 'Online! AC:X52889, September 1993 (1993-09) LIEW: "HUMAN GENE FOR CARDIAC BETA MYOSIN HEAVY CHAIN" XP002141056 abstract	17
Υ	DATABASE GENBANK 'Online! AC:2808656, December 1998 (1998-12) BERNOT ET AL.: "A TRANSCRIPTIONAL MAP OF THE FMF REGION/ZINC FINGER PROTEIN" XP002141057 abstract	
Υ	YOSHIKAI ET AL.: "GENOMIC ORGANIZATION OF THE HUMAN AMYLOID BETA-PROTEIN PRECURSOR GENE" GENE, vol. 87, 1990, pages 257-263, XP002141053 the whole document	17
Y	DATABASE GENBANK 'Online! AC:M73548, January 1995 (1995-01) JOSLYN ET AL.: "HUMAN POLYPOSIS LOCUS mRNA" XP002141058 abstract	17
	-/	

Inter anal Application No
PCT/CA 00/00005

		PC1/CA 00/	00005
C.(Continua	NION) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
A	WO 98 18906 A (CLAYCOMB WILLIAM CREIGHTON; PROCTER & GAMBLE (US)) 7 May 1998 (1998-05-07) the whole document		
A	US 5 352 775 A (MARKHAM ALEXANDER F ET AL) 4 October 1994 (1994-10-04) the whole document		
A	DE 44 35 919 C (DEUTSCHES KREBSFORSCH) 7 December 1995 (1995-12-07) the whole document		
A	US 5 837 449 A (ECKER DAVID J ET AL) 17 November 1998 (1998-11-17) the whole document		
A	WO 98 33942 A (NAKAO KOICHI ;BRISTOW MICHAEL R (US); LEINWAND LESLIE A (US); MINO) 6 August 1998 (1998-08-06) the whole document		
			į

information on patent family members

Inter onal Application No PCT/CA 00/00005

	itent document		Publication		atent family	Publication date
cited	I in search report		date		member(s) ——————————	<u> </u>
WO	9849342	Α	05-11-1998	AU	7222698 A	24-11-1998
				EP	0979308 A	16-02-2000
				NO	995296 A	14-12-1999
<u> </u>	9824935	Α	11-06-1998	AU	5515198 A	29-06-1998
<b>n</b> O	3024300			EP	0960214 A	01-12-1999
	0534640	Α	31-03-1993	AT	143700 T	15-10-1996
LI	0554040	•	31 00 1770	CA	2078703 A	24-03-1993
				DE	69214243 D	07-11-1996
				DE	69214243 T	06-02-1997
				DK	534640 T	17-03-1997
				ES	2092056 T	16-11-1996
				FΪ	924242 A	24-03-1993
				GR	3021721 T	28-02-1997
				ĴΡ	2703156 B	26-01-1998
				ĴΡ	5192199 A	03-08-1993
				US	5643730 A	01-07-1997
JP	09187299	A	22-07-1997	NONE		·
<u></u> .	9818906	Α	07-05-1998	AU	5149998 A	22-05-1998
,,,	3010300	••		EP	0956341 A	17-11-1999
				NO	991894 A	24-06-1999
US	 5352775	Α	04-10-1994	US	5648212 A	15-07-1997
•••	0002772	• •		US	5691454 A	25-11-1997
				US	5783666 A	21-07-1998
				US	RE36713 E	23-05-2000
				AU	1366992 A	27-08-1992
				EP	0569527 A	18-11-1993
				WO	9213103 A	06-08-1992
DF	4435919		07-12-1995	WO	9611267 A	18-04-1996
J				EP	0784680 A	23-07-1997
				JP	10506789 T	07-07-1998 
US	5837449	 А	17-11-1998	AU	3249793 A	28-07-1993
-	300		•	.CA	2126451 A	08-07-1993
				EP	0644889 A	29-03-1995
				JP	6511387 T	22-12-1994
				WO	9313114 A	08-07-1993 
	9833942	A	06-08-1998	AU	6141098 A	25-08-1998